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RUSSIAN AGRICULTURE DURING THE WAR

ECONOMIC AND SOCIAL HISTORY OF THE WORLD WAR

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SIR PAUL VINOGRADOFF, F.B.A., *Editor.*
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RUSSIAN AGRICULTURE DURING THE WAR

RURAL ECONOMY

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THE LAND SETTLEMENT

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EDITOR'S PREFACE

In the autumn of 1914, when the scientific study of the effects of war upon modern life passed suddenly from theory to history, the Division of Economics and History of the Carnegie Endowment for International Peace proposed to adjust the program of its researches to the new and altered problems which the War presented. The existing program, which had been prepared as the result of a conference of economists held at Berne in 1911, and which dealt with the facts then at hand, had just begun to show the quality of its contributions; but for many reasons it could no longer be followed out. A plan was therefore drawn up at the request of the Director of the Division, in which it was proposed, by means of an historical survey, to attempt to measure the economic cost of the War and the displacement which it was causing in the processes of civilization. Such an "Economic and Social History of the World War," it was felt, if undertaken by men of judicial temper and adequate training, might ultimately, by reason of its scientific obligations to truth, furnish data for the forming of sound public opinion, and thus contribute fundamentally toward the aims of an institution dedicated to the cause of international peace.

The need for such an analysis, conceived and executed in the spirit of historical research, was increasingly obvious as the War developed, releasing complex forces of national life not only for the vast process of destruction, but also for the stimulation of new capacities for production. This new economic activity, which under normal conditions of peace might have been a gain to society, and the surprising capacity exhibited by the belligerent nations for enduring long and increasing loss—often while presenting the outward semblance of new prosperity—made necessary a reconsideration of the whole field of war economics. A double obligation was therefore placed upon the Division of Economics and History. It was obliged to concentrate its work upon the problem thus presented, and to study it as a whole; in other words, to apply to it the tests and disciplines of history. Just as the War itself was a single event, though penetrating by seemingly unconnected ways to the remotest parts of the world, so the analysis of it must be developed

according to a plan at once all embracing and yet adjustable to the practical limits of the available data.

During the actual progress of the War, however, the execution of this plan for a scientific and objective study of war economics proved impossible in any large and authoritative way. Incidental studies and surveys of portions of the field could be made and were made under the direction of the Division, but it was impossible to undertake a general history for obvious reasons. In the first place, an authoritative statement of the resources of belligerents bore directly on the conduct of armies in the field. The result was to remove as far as possible from scrutiny those data of the economic life of the countries at war which would ordinarily, in time of peace, be readily available for investigation. In addition to this difficulty of consulting documents, collaborators competent to deal with them were for the most part called into national service in the belligerent countries and so were unavailable for research. The plan for a war history was therefore postponed until conditions should arise which would make possible not only access to essential documents, but also the coöperation of economists, historians, and men of affairs in the nations chiefly concerned, whose joint work would not be misunderstood either in purpose or in content.

Upon the termination of the War, the Endowment once more took up the original plan, and it was found with but slight modification to be applicable to the situation. Work was begun in the summer and autumn of 1918. In the first place a final conference of the Advisory Board of Economics of the Division of Economics and History was held in Paris, which limited itself to planning a series of short preliminary surveys of special fields. Since, however, the purely preliminary character of such studies was further emphasized by the fact that they were directed more especially toward those problems which were then fronting Europe as questions of urgency, it was considered best not to treat them as part of the general survey, but rather as of contemporary value in the period of war settlement. It was clear that not only could no general program be laid down *a priori* by this conference as a whole, but that a new and more highly specialized research organization than that already existing would be needed to undertake the Economic and Social History of the World War, one based more upon national grounds in the first instance, and less upon purely international coöperation. Until the

facts of national history could be ascertained, it would be impossible to proceed with comparative analysis; and the different national histories were themselves of almost baffling intricacy and variety. Consequently the former European Committee of Research was dissolved, and in its place it was decided to erect an Editorial Board in each of the larger countries and to nominate special editors in the smaller ones, who should concentrate, for the present at least, upon their own economic and social war history.

The nomination of these boards by the General Editor was the first step taken in every country where the work has begun. And if any justification were needed for the plan of the Endowment, it at once may be found in the lists of those, distinguished in scholarship or in public affairs, who have accepted the responsibility of editorship. This responsibility is by no means light, involving as it does the adaptation of the general editorial plan to the varying demands of national circumstances or methods of work; and the measure of success attained is due to the generous and earnest coöperation of those in charge in each country.

Once the editorial organization was established, there could be little doubt as to the first step which should be taken in each instance toward the actual preparation of the History. Without documents there can be no history. The essential records of the War, local as well as central, have therefore to be preserved and to be made available for research in so far as is compatible with public interest. But this archival task is a very great one, belonging of right to the Governments and other owners of historical sources and not to the historian or economist who proposes to use them. It is an obligation of ownership; for all such documents are public trust. The collaborators on this section of the War History, therefore, working within their own field as researchers, could only survey the situation as they found it and report their findings in the forms of guides or manuals; and perhaps, by stimulating a comparison of methods, help to further the adoption of those found to be most practical. In every country, therefore, this was the point of departure for actual work; although special monographs have not been written in every instance.

The first stage of the work upon the War History, dealing with little more than the externals of archives, seemed for a while to exhaust the possibilities of research, and had the plan of the History been limited to research based upon official documents, little more

could have been done, for once documents have been labeled "secret" few government officials can be found with sufficient courage or initiative to break open the seal. Thus vast masses of source material essential for the historian were effectively placed beyond his reach, although much of it was quite harmless from any point of view. While war conditions thus continued to hamper research, and were likely to do so for many years to come, some alternative had to be found.

Fortunately such an alternative was at hand in the narrative, amply supported by documentary evidence, of those who had played some part in the conduct of affairs during the War, or who, as close observers in privileged positions, were able to record from first- or at least second-hand knowledge the economic history of different phases of the Great War, and of its effect upon society. Thus a series of monographs was planned consisting for the most part of unofficial yet authoritative statements, descriptive or historical, which may best be described as about halfway between memoirs and bluebooks. These monographs make up the main body of the work assigned so far. They are not limited to contemporary war-time studies; for the economic history of the War must deal with a longer period than that of the actual fighting. It must cover the years of "deflation" as well, at least sufficiently to secure some fairer measure of the economic displacement than is possible in purely contemporary judgments.

With this phase of the work, the editorial problems assumed a new aspect. The series of monographs had to be planned primarily with regard to the availability of contributors, rather than of source material as in the case of most histories; for the contributors themselves controlled the sources. This in turn involved a new attitude toward those two ideals which historians have sought to emphasize, consistency and objectivity. In order to bring out the chief contribution of each writer it was impossible to keep within narrowly logical outlines; facts would have to be repeated in different settings and seen from different angles, and sections included which do not lie within the strict limits of history; and absolute objectivity could not be obtained in every part. Under the stress of controversy or apology, partial views would here and there find their expression. But these views are in some instances an intrinsic part of the history itself, contemporary measurements of facts as significant as the

facts with which they deal. Moreover, the work as a whole is planned to furnish its own corrective; and where it does not, others will.

In addition to the monographic treatment of source material, a number of studies by specialists are already in preparation, dealing with technical or limited subjects, historical or statistical. These monographs also partake to some extent of the nature of first-hand material, registering as they do the data of history close enough to the source to permit verification in ways impossible later. But they also belong to that constructive process by which history passes from analysis to synthesis. The process is a long and difficult one, however, and work upon it has only just begun. To quote an apt characterization; in the first stages of a history like this, one is only "picking cotton." The tangled threads of events have still to be woven into the pattern of history; and for this creative and constructive work different plans and organizations may be needed.

In a work which is the product of so complex and varied coöperation as this, it is impossible to indicate in any but a most general way the apportionment of responsibility of editors and authors for the contents of the different monographs. For the plan of the History as a whole and its effective execution the General Editor is responsible; but the arrangement of the detailed programs of study has been largely the work of the different Editorial Boards and divisional Editors, who have also read the manuscripts prepared under their direction. The acceptance of a monograph in this series, however, does not commit the editors to the opinions or conclusions of the authors. Like other editors, they are asked to vouch for the scientific merit, the appropriateness and usefulness of the volumes admitted to the series; but the authors are naturally free to make their individual contributions in their own way. In like manner the publication of the monographs does not commit the Endowment to agreement with any specific conclusions which may be expressed therein. The responsibility of the Endowment is to History itself—an obligation not to avoid but to secure and preserve variant narratives and points of view, in so far as they are essential for the understanding of the War as a whole.

* * * * *

In the case of Russia, civil war and revolution followed so closely upon the World War that it is almost impossible for history to

measure with any degree of accuracy the effects of the World War itself upon the economic and social life of the country. Those effects were so distorted by the forces let loose in the post-war years and so confused with the disturbances of the revolutionary era that the attempt to isolate the phenomena of the War from the data of civil war and to analyze the former according to the plan followed in the other national series of this collection has been a task of unparalleled difficulty. Over and above the intricacies of the problem and its illusive character, the authors of the Russian monographs have had to work under the most discouraging circumstances and with inadequate implements of research. For those who know the scarcity of the documentary material available, it will be a matter of no little surprise to find, in the pages of this Russian Series, narratives and substantiating data which measure up so well in comparison with those prepared by the collaborators in other countries. The achievement of the Russian Division of the History is, all things considered, the most remarkable section of the entire collection. This is due, in the first place, to the fact that the authors, all of them exiles who live in foreign lands, have not only brought to this task the scientific disciplines of their own special fields but also an expert knowledge drawn from personal experience which in several instances reached to the highest offices of State.

While these volumes in the Russian History constitute so very considerable an achievement, they cannot in the very nature of the case cover with adequate statistical or other specific data many of the problems with which they deal. No one is more conscious of their shortcomings in this regard than the authors themselves. Nevertheless, with inadequate material and under hampering circumstances they have prepared a body of text and a record which, if admittedly incomplete as history, contains at least one element that would otherwise be lost for the future understanding of this great crisis in human affairs, an element which no other generation working from Russian archives could ever supply. We have here the mature comment upon events by contemporaries capable of passing judgment and appraising values, so that over and above the survey of phenomena there is presented a perspective and an organization of material which will be a contribution to history hardly less important than the substance of the monographs.

The Russian Series was in the first instance planned by one of the

most distinguished of Russian scholars who had long been a resident of England, Sir Paul Vinogradoff, Corpus Professor of Jurisprudence at the University of Oxford. To the planning of the Series Sir Paul gave much time and thought. His untimely death in December, 1925, prevented him from seeing its fruition or from assuming the editorial responsibility for the texts. Nevertheless, the Series as a whole remains substantially as he had planned it.

The present volume deals with agriculture and land settlement, a question of paramount importance which has been recently brought to the fore by the new policy of the Soviet Government in fostering collective farming. The immense social and economic experiment carried out under our eyes by the Government of Moscow is, undoubtedly, the result of complex conditions the explanation of which will be found in Russia's past. It is hoped that the present volume will be of service to the thoughtful student of Russia in obtaining a clear understanding of her agricultural and rural background without which the meaning of the revolutionary events of 1917 and of the following years cannot be fully grasped.

J. T. S.

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RUSSIAN RURAL ECONOMY DURING THE WAR

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INTRODUCTION

The influence of the Great War of 1914–1918 on agriculture, the main industry of Russia, has been many sided. Therein lie the difficulty and complexity of the task that the authors of this work have before them. We desire to present a clear and vivid picture of the essential changes that have taken place in Russian agriculture under the conditions created by the War. In order to do so successfully we have tried to confine ourselves to the essential elements in the existing state of agriculture and in its evolution, and to describe only features of a general character; we have also endeavored to be as concise as possible.

We begin by giving the reader a picture of the state of agriculture in Russia at the opening of the twentieth century and determining its place in the general scheme of world economics; we also define the fundamental lines along which it was tending to develop. Without such a preliminary review, the reader would have no firm basis of comparison, no means of gauging the extent of the changes wrought by the War, nor could he keep events in a true perspective.

Such a review is contained in Chapters I, II, III, IV, and in Chapter X which deals with a special branch of agriculture—forestry. Chapters V, VI, VII, VIII, IX, XI, and XII review the War period and the changes that took place, first, in the whole system of agricultural production, and secondly, in the position occupied by Russian agriculture in relation to home and foreign markets. We have used only authoritative data and have tried to make it clear that these changes were not the result only of outward events, but that they often proceeded from the changes in the psychology of the masses. The closing chapter is a short summary of conclusions that may be drawn from an analysis of the materials herein set forth.

We have formed our judgment on the basis of existing statistical materials, and our analysis of the changes that took place during the War and under its influences is limited by those materials. It is therefore advisable to describe briefly in this preface the Russian statistics which have been at our disposal and to assess their value.

There are two fundamental sources of statistical information relating to Russian agriculture: first, the census and the current rec-

ords kept by the zemstvos;[1] second, similar data collected by central departments of the Government. The data given by the zemstvos are generally characterized by a remarkable profusion of material and a minutely detailed classification, but they are very heterogeneous and, for the most part, do not lend themselves to comparisons. Relating as they do to dissimilar periods and based on essentially different methods of statistical observation and analysis, these data either cannot be correlated, or only to such a limited extent as to be without scientific value. From such materials it is impossible to form an accurate idea of processes so vast as those which extended over the whole of Russia. They can be used, as it were, only in an auxiliary capacity, to illustrate particular facts.

The material provided by government statistics is characterized by the opposite features. These statistics are scantier and less well analyzed than those of the zemstvos, and in certain respects they also fall short of the standard of the official agricultural statistics of western Europe and North America. On the other hand, they are homogeneous, admit of comparison, and make it possible, within the limits of registered facts, to get at the essential lines of the development of agriculture throughout the whole of the Empire. Since this is especially important for our present investigation, we have made them the basis of this work. This has, of course, reacted on the general structure of our investigation, narrowing its limits and rendering it more superficial than it might have been under other circumstances. But the correctness of our essential conclusions need not, on that account, be doubted.

As regards method, government statistics differ but slightly from those of the zemstvos, even though their scope is more limited, and they deal with a smaller number of subjects and throw less light upon them. But the absolute and, more particularly, the relative figures of government statistics attain a fairly high standard of accuracy. It has been proved by a whole series of statistical studies that only in minor questions and individual cases (both in respect of periods and areas) do they show any difference from the results arrived at by the zemstvos.[2] But in estimates relating to large areas or longer periods the two sets of statistics are in very close accord.

[1] The zemstvos were institutions of local government. They often stood in opposition to the central Government.

[2] Critical studies of this kind are particularly abundant on questions re-

We must note considerable progress in the general structure of government statistics, particularly as regards the war period. We draw the reader's attention to the excellent census of 1916 of areas sown and of cattle bred, and to the attempt at a thorough registration of landholdings, land classification, crops, and cattle in 1917.

We can best judge of the merits and defects of the material used in this work by studying the concrete data that formed the basis of the conclusions regarding landholdings, land classification, sown areas, crops, and cattle breeding.

Landholdings. The government data regarding landholdings are based: First, on the land censuses of 1877 and 1905. Both these censuses were carried out very thoroughly. The information regarding the area and quality of taxable land was registered in local treasury boards (*Kazennaya palata*) and in the zemstvos; it was used to check the information given by the peasant landowners and by the village authorities. No doubts as to the correctness of the data have ever been raised by the critics. Second, on materials regarding changes in landownership published every year since the beginning of 1863; these materials are statistics compiled from the obligatory depositions concerning all changes of ownership. It is generally admitted that they are exceedingly valuable. A third official source of information in regard to landholding is the census of 1917. Since this date revolutionary conditions have rendered thoroughly satisfactory work impossible, and so far the material published concerns only a few of the provinces.

Classification of land. In 1881 to 1887 a census was taken over the whole of Russia; this is all the official material we have, apart from certain casually published data concerning the area of land cultivated in 1912, and the census of 1917 which, however, does not include the whole of Russia.

garding the statistics of crops and cattle breeding. The leading works on the subject are: Professor A. Fortunatov, *Urozhai vzhi Evropeiskoi Rossii* (*Rye Crops in European Russia*), Moscow, 1892; also *Selskokhozyaistveunaya statistika* (*Agricultural Statistics*), Moscow, 1893; Professor R. Orzhentsky, *Uvozhai rzhi v Yavoslavskoi Gubernii* (*Rye Crops in the Government of Yaroslavl*), Yaroslavl, 1912; D. N. Ivantsov, *K Kritika Russkoi statistiki urozhaev* (*Criticism of Russian Statistics of Crops*), Petrograd, 1915, also *Urozhai 1914 goda* (*The Crops of 1914*), Moscow, 1915; P. Vikhlyaev, *Analis dannikh selskokhozyaistvennoi perepisi 1916 goda* (*Analysis of the Agricultural Census of 1916*), Moscow, 1917.

Area under cultivation. Before the War statistical material concerning the area under cultivation was mainly drawn from the yearly publications of the Central Statistical Committee, which used to appear under the title of *Crops of the Year*. Beginning with the year 1893, figures were taken from the special records of the area under cultivation collected by the local village administration agent, working under instructions from the Committee. As the methods of record were not strictly systematized and the records themselves were very slightly checked, we cannot expect the absolute figures to be strictly accurate. However, a comparison with the figures of the census of 1916 shows only a small error, not more than 2 per cent, and this only in cases of small territorial units and crops of minor importance. Therefore the accuracy of the figures for purposes of comparison can be completely relied upon.

The data regarding the areas under cultivation were collected not only by the Central Statistical Committee, but also by the Ministry of Finance (which paid particular attention to the growing of sugar beet, tobacco, sunflowers, and hops) and by the Ministry of Agriculture (which took special interest in vineyards and the cultivation of the mulberry tree). The data they gave were generally very exact and detailed.

It is more difficult to get a true idea of the rotation of crops during war-time. Information was collected by the Central Statistical Committee only up to the end of 1915. For 1916 we possess merely fragmentary data to be found in the publications of the Special Council for Food Supply. The very thorough census of 1916 gives us reliable figures as regards the area tilled. But, as the method of collecting information on the occasion of this census was different from that previously followed, the figures arrived at are not comparable with the official figures of pre-war times. The second census of 1917 was taken during the period of agrarian disturbances, and the material collected was published under the *régime* of "military communism." The records of this census, therefore, are not complete, and are not in all respects comparable with the data of the census of 1916. However, we are still able to get a fairly exact idea of the fluctuations which took place from 1914 to 1917 in the areas cultivated. The inferences are more likely to be correct if we compare the figures for each different region and for each different crop

only in those cases where the figures are strictly comparable, or can be made so by adapting the available data.

Yield of crops. Information concerning crops was formerly collected by a number of government departments. Different methods of registration were used and the registration was performed by different kinds of local agents. Therefore the figures arrived at for the yield per deciatine (2.7 acres) differ to a certain extent, and, probably, are not quite exact. All of them, however, express alike the general tendency and the degrees of variation of the yield of crops. The data given by the Central Statistical Committee, published since 1883 and based on communications received from village authorities, are particularly reliable in this respect. The fact that during thirty-three years the Committee's methods remained unchanged and that its figures are taken from a great number of returns, twelve for each *volost*,[3] enables us to place great confidence in these data.

Stock breeding. As regards horse breeding we have two sources of information for the pre-war period. First, material published by the Ministry of War, which the village authorities used to submit periodically by order of that department. The first military registration of horses took place in 1890; the last in 1912. In view of the importance of the matter, these registrations were carried out with special care by both the central and the local authorities, and they were generally considered to be very accurate.

Second, information concerning the numbers and quality of studs was published yearly by the Central Veterinary Administration. These publications were based on reports furnished by the veterinary surgeons. Though less exact in their absolute figures they reflected satisfactorily the changes that took place in the horse-breeding industry.

During the war period the only available material regarding the breeding of other kinds of stock for the whole of Russia were the publications of the Central Veterinary Administration. These were not so thorough as those concerning horse breeding: they were somewhat summary, related only to some branches of stock breeding, and were consequently unsatisfactory. These data are incomplete, but they contain reliable information on the yearly variations

[3] *Volost:* a rural district comprising two or more villages.

in the number of horses. In any case, the data are quite trustworthy for purposes of comparison.

During the War the customary collection of statistics was not kept up either as regards cultivated areas or as regards the breeding of stock. The Veterinary Administration ceased to publish any returns from 1915 onward. In many respects the excellent material collected in the course of the census of 1916 does not lend itself to comparison with that of pre-war times. Owing to the circumstances previously referred to, the results of the census of 1917 could only partly be used. Consequently the investigation of stock-breeding conditions has proved a more troublesome matter than the investigation of the areas under cultivation. It is especially difficult to determine the changes that have taken place in the quality of the flocks and herds, and in the age distribution of the live stock. Nevertheless, in spite of incidental defects inherent to Russian official statistics, the material collected, taken as a whole, is by no means without value, nor is it useless for purposes of scientific study.

Cut off as we are from the libraries of Russia, we have had to face another difficulty, which appeared insurmountable; that of finding abroad some of the necessary official publications. Happily, this difficulty has been overcome. All the necessary material, with the exception of some of little importance, has been found abroad: in Paris, Rome, Prague, and Geneva. The courtesy of a large number of institutions and individuals who happen to possess the required publications has enabled us to have access to them. Though it is impossible to enumerate here all those who have rendered us such valuable assistance, we ask them to accept our sincere thanks.

Four persons have taken part in writing this monograph. Chapters II and III have been written by Professor A. D. Bilimovich; Chapters IV, VIII, IX, X, and XI by M. O. Batshev; Chapters V, VI, and VII by D. N. Ivantsov; the Chapters I, XII, and XIII, as well as the general editorship of the whole volume, are the work of the undersigned.

Alexis Antsiferov.

CHAPTER I

RUSSIAN AGRICULTURE AT THE BEGINNING OF THE TWENTIETH CENTURY

The Geographical Factor.

At the moment when the World War broke out, the Russian Empire extended over an immense territory covering an area of some nineteen million square versts or about 2,000 million deciatines.[1] This territory was distributed among the principal subdivisions of the Empire as follows:

AREA OF THE PRINCIPAL SUBDIVISIONS OF THE RUSSIAN EMPIRE

Part of the Empire	*In square versts*	*In deciatines*	*In acres*	*Percentage of the total area of the Empire*
European Russia	4,238,712	441,546,300	1,190,700,000	22.1
Caucasus	412,311	42,950,400	115,800,000	2.2
Siberia	10,996,345	1,145,489,400	3,091,500,000	57.4
Steppe Country and the Central Asiatic possessions	3,110,624	324,033,700	874,800,000	16.2
Poland	111,554	11,620,600	31,300,000	0.5
Finland	286,042	.....	.....	1.5
Total	19,155,588	1,965,640,400	5,304,100,000	

As distinguished from other Great Powers, Russia possessed no colonies in the strict sense of the word. With the exception of a few islands, nearly all her territory formed one coherent whole. This peculiarity was an important and favorable condition for the development of national agriculture. It is known that the essential natural factors on which the development of agriculture depend are: (1) climate, that is, principally the amount and the distribution of warmth and moisture; and (2) the quality of the soil. From north to south and from west to east the whole scale of climatic conditions can be found within the immense expanse of Russia: from the cold-

[1] One deciatine = 2.7 acres.

est to the subtropical; from exceedingly dry climates, similar to that of Sahara (Turkestan), to exceedingly moist ones (the province of Batum).

The short period of vegetation in the northern parts of European Russia and in most of the Siberian provinces is no obstacle to agriculture, thanks to the great amount of warmth received during spring and summer. The natural boundary of the culture of cereals reaches as far as the extreme northern limits of European Russia. In western and eastern Siberia the cultivation of so comparatively tender a plant as wheat is not only possible, but has during the last decades been very widely adopted.

Before the War the butter-making industry was flourishing in Siberia. Butter was produced as far as the fiftieth parallel of north latitude. Therefore even if we exclude the whole of the northern swamps (*taiga*) as unsuitable for farming (and this still remains to be proved), we find that many advanced forms of agriculture can be successfully undertaken in the immense expanse of Asiatic Russia. We have, besides, the more southern Steppe Country and Turkestan.

The great diversity of climate makes it possible to grow the most varied crops, from the hardiest cereals to delicate fruits. All cereals, including rice, all varieties of roots, tobacco, grapes, the mulberry tree, and the tea plant—all these not only could be, but actually were cultivated in Russia in pre-war times.

The same variety can be found in the quality of the soil itself: some soils are very poor indeed; others, again, are remarkably fertile, especially the black soil of southern Russia and of some parts of Siberia. It is the remarkable fertility of the Russian black soil which has during the last decades contributed most of all to the development of Russian agriculture. This black-soil belt stretches across the whole of European Russia, from the southwest to the northeast; from Bessarabia and the Podolsk province to the Ural Mountains. From the Urals it extends farther on to western Siberia and the Steppe Country. According to figures given by Professor Mushketov, the black-soil belt in the west reaches a width of 350 versts,[2] attaining toward the center a width of from 700 to 800 versts.

The less fertile districts in the north of Russia, and such as are

[2] One verst = 0.7 mile.

still considered unsuited for agriculture (the swamps of Siberia) have been lavishly endowed with splendid forests containing the most valuable kinds of timber.

Nature has thus been kind to Russia and has bestowed rich gifts on her population. The conditions are very favorable for agriculture, her principal and most important industry, which might accordingly have attained a high degree of development.

Population.

The colonization of the immense Russian territory is still very far from being completed. It is a process that has been going on during the whole of Russian history and its imprint may be found in the domestic life of the people. It is as if they had not been given time to settle down, as if many tendencies inherent in the nomad were still alive in them: a love of migration and of change of habitation, and a comparative readiness to forsake their ancestral homes.

The population is remarkably prolific, so that its numbers increased rapidly in spite of a comparatively high death rate. In less than two hundred years, from 1722 to 1915, the population of Russia had increased thirteen-fold. The average index of the growth of the Russian population is one and two-thirds times the index of growth in Germany; two and one-quarter times that in Great Britain; and nearly four times that in France.

It is evident that the rapid increase of the population had a great influence on the trend and development of national welfare in general, and of agriculture in particular. The great increase of consumption imperatively demanded a corresponding increase in the production of foodstuffs. This was obtained (especially during the period of serfdom, that is, before 1860) almost exclusively by increasing the area of cultivated land. Virgin soil would be tilled and distant provinces colonized and brought under cultivation.

From the sixties of the last century onward, the increased supply of foodstuffs was secured by two methods: the cultivation of ever new soil, and the improvement of the yield of land already under cultivation.

The extension of the cultivated areas went on apace with the growth of the population. The attainment of better yields proceeded more slowly. Nevertheless, and as a result of these two causes,

the increase of food production not only kept pace with, but was in advance of the growth of population.

The great increase in population called forth a movement for colonization within the limits of the Empire itself. But for many reasons, among others the uncertain policy in this connection of the Russian Government during the last decades, this colonization movement lagged behind the growth of the population. During the second decade of the twentieth century certain provinces of European Russia were as densely populated as the average districts of France; in some, the population was even denser. In these was to be seen relative overpopulation. This gave rise to the famous so-called "agrarian question" in Russia, which aroused not so much intelligent interest perhaps, as emotional excitement among the educated middle classes, and which bore such disastrous fruit during the Revolution.

The importance of the relative overpopulation and, consequently, of the agrarian question, was further increased by two circumstances. The first was the inadequate development of industry, which was unable to give occupation to the whole of the surplus population. The second was that areas of land fully suited for cultivation were lying fallow even in European Russia.

The Central Agricultural region within the black-soil belt suffered most from overpopulation. For this reason it came to be called in literature and even in official documents "the impoverished center." The provinces of Little Russia and the Southwestern region also suffered from shortage of land.[3]

It is impossible to speak of overpopulation in respect of Russia as a whole. It is well known that her immense expanses were still underpopulated. The average figure for the whole of European Russia was 31 persons to the square verst; and the average for the rural population only was 26.4. In the central Asiatic possessions it was 3.6 per square verst, and in Siberia 0.9. If we take the average figure for the whole of Russia (European and Asiatic) we find

[3] Apart from Petrograd and Moscow, where the large cities greatly increased the total number of the population, the most densely populated of the originally Russian provinces were: I, Podolia, Kiev, Poltava, Kharkov, Kursk, and Riga, with from 136 to 157 persons per square mile; II, Volhynia, Bessarabia, Ekaterinoslav, Chernigov, Orel, and Voronezh, where there were from 113 to 134 persons per square mile. See *Selskokhozyaistvenni Promisel v Rossii* (*Agriculture in Russia*), Petrograd, 1914.

that there were 95 persons to every ten square versts. Of these 85 belonged to the rural population. The density of the population in Russia was accordingly one-ninth of that in France; one-thirteenth of that in Germany; one-sixteenth of that in England; and one-twenty-eighth of that in Belgium.

Three Conditions of Agricultural Progress.

Such was the basis upon which the agricultural life of the country was being built. According to M. Lokhtin,[4] three conditions exercised great influence on the direction and character that agriculture was destined to take: (1) the abundance of land; (2) the right of the agricultural producer to the produce of his labor; (3) the security of the individual owner in the possession of his land.

Of these three conditions the first, the abundance of land, still exists. The second, the right of the producer to the produce of his agricultural labor, existed from the moment of the abolition of serfdom up to the third year of the last War. The Government not only never repudiated it, but was always ready to protect it against attack. This right, which is essential to the regularity of agricultural production, was swept away in 1917.

As regards the third condition, the right of individual ownership, we must admit that the peasants who formed the great mass of the agricultural population, were placed in a position both unfavorable and unstable, when compared with their western neighbors. For their right of ownership consisted not in the right to own the land itself, but only in the enjoyment and use of a certain allotted portion, the so-called *per capita* holding.

Increase in the Number of Peasant Farms.

The two following factors greatly promoted the somewhat artificial density of the population in particular localities: (1) measures taken by the Government to limit the freedom of colonization, for instance, the passport system and other regulations restricting the freedom of settling; (2) the frequent redistributions of land among the peasants in each community; this led to a steady increase in the

[4] P. M. Lokhtin, *Sostoyanie selskago khozyaistva v Rossii sravnitelno s drugimi stranami* (*Agriculture in Russia As Compared with Other Countries*), St. Petersburg, 1901.

number of holders of homesteads, and the decrease in the size of holdings.

According to the official data of 1861 there were 8,450,782 peasant homesteads in the fifty provinces of European Russia; the census of 1905 gives the figure at 12,298,000 for the same area.[5] On the occasion of the first agricultural census in 1916, which includes only forty-eight, not fifty provinces of European Russia, 15,712,000 homesteads of the peasant type were registered, though their actual number was even larger. The fact that a number of these homesteads were owned by individuals who did not belong to the peasant class does not alter the economic significance of these figures. We see, therefore, that during the period of forty-four years (1861–1905) the average annual increase of this type of homestead was about 83,000; during the following twelve years (1905–1916), this annual increase was about 300,000; the rate of increase in the later period was thus 3.6 times as rapid as in the earlier. This acceleration began in 1904–1906, and became steadily greater. The revolutionary outbursts of that period and the subsequent extensive sales of land to the peasants by the big landowners were among the causes of the increase in the number of peasant homesteads.

Because of the abundance of land and the quantities offered for sale, the problem of providing large areas within a short period as a land reserve for the purpose of home colonization presented no great difficulty. But the State Peasant Bank was not always equal to the demands made upon it. It had neither sufficient funds, nor sufficient powers; its activity was neither systematic nor energetic enough. At the same time the general policy of the Government was weak and vacillating. As an inevitable result, the increase of the land reserve and its distribution among the settlers lagged far behind the ever growing demands. This naturally gave rise to much dissatisfaction among the peasants. There is no doubt that in this important matter the policy followed by the Government was ill advised. It appeared as if nobody in higher offices was quite aware of the gravity and significance of what was occurring.

As a result, all the measures taken by the Government in this direction were half-hearted and inadequate. They were entirely lack-

[5] *Ezhegodnik Rossii* (*Russian Yearbook*) for 1907, published by the Central Statistical Committee.

ing in foresight and vision. Since the revolutionary outbreak of 1905–1906, the psychology of the masses had changed, and their constantly unsatisfied demand was growing more and more pressing. The ground was thus being prepared for a rich harvest of revolutionary ideas. During the late War ominous symptoms were soon apparent.

Land Suitable for Cultivation and Land Actually Cultivated.

The area suited for cultivation can be calculated from the following data. The land census of 1877–1878 registered 377 million deciatines (1,017.5 million acres) suited for agricultural purposes, including forest land. The land census of 1905 gives the area as 395.2 million deciatines[6] (1,066.9 million acres), an increase of 18 million deciatines. This discrepancy is the result of a more exact registration, carried out for the purpose of land taxation; it is also the result of better technique in land-surveying. As the total area of European Russia is equal to 441.5 million deciatines, it follows that the census of 1905 excepts 46.3 million deciatines (125 million acres) as unsuited for cultivation.

Excluding the forest area (165.1 million deciatines), we find that before the War European Russia possessed 230 million deciatines of land suitable for agriculture, that is, fields, meadows, and pastures. The latter area is considerably increased by forest land, which in many instances gives very good pasture and is in fact often used for grazing cattle.

This extensive area, toward the beginning of the twentieth century, was still very inadequately utilized. Even where the land had been brought under cultivation, it would often be allowed to lie fallow. One of the best known specialists on agricultural statistics, M. Fortunatov, has stated that the area of fields lying fallow may be

[6] The calculations of the International Agricultural Institute, which involve an elemental error, that of not differentiating between land "suitable for cultivation" and "land actually under cultivation," are far from exact. In the returns of the Statistical Bureau of the Institute 234.4 million hectares, that is, more than the half of the total area of European Russia, are placed in the category of "unknown designation" (see *Annuaire International de Statistique Agricole,* 1915–1916). Of course the designation of this land was "unknown" only to the Statistical Bureau of the Institute. Consequently we do not take these estimates into consideration. The area of forest land is also miscalculated.

estimated at nearly 40 per cent in the ninth decade of the nineteenth century.[7] Toward the beginning of the twentieth century this was somewhat modified: land exploitation grew to be more intensive, so that on the very careful assumptions of Lokhtin, it is possible to estimate that at this period not more than 30 per cent of arable land was lying fallow.[8]

Accepting these figures as a correct estimate of the proportion of land actually under cultivation in 1912 we arrive at the following: land cultivated, 91.4 million deciatines; land lying fallow, 39.2 million deciatines.

If we add to these figures the officially registered area of meadows (25.1 million deciatines) and forests (165.1 million deciatines) we see that at the beginning of the twentieth century 320.8 million deciatines were under agricultural or forest cultivation, that is, less than three-fourths (72.6 per cent) of the whole area of European Russia.

Of the remaining 120.7 million deciatines six-tenths (74.4 million deciatines) were registered as "land suited for cultivation" by the census of 1905. But they were not actually cultivated and formed a kind of land reserve.

We shall not be surprised at the large extent of this land reserve if we bear in mind that, according to the agricultural census of 1916, in the vast area of the Ufa, Orenburg, and Ural provinces, covering 63 million deciatines, there existed only 888,000 farms, with a population of four million; and that only five million deciatines were under cultivation. As late as the beginning of the twentieth century, man, though he had had time to spoil the virgin charm of this wonderful region, was yet far from having achieved the com-

[7] The exact figure given by M. Fortunatov is 39.4 per cent. A. F. Fortunatov, *Selskokhozyaistvennaya statistika Evropeiskoi Rossii* (*Agricultural Statistics of European Russia*), St. Petersburg, 1893. These calculations are based on the official returns of the census of 1877–1878.

[8] P. M. Lokhtin, *Sostoyanie selskogo khozyaistva v Rossii sravnitelno s drugimi stranami* (*Conditions of Agriculture in Russia as Compared with Other Countries*), St. Petersburg, 1901. This estimate is corroborated by the data of the agricultural census of 1917: in thirty-eight provinces of European Russia 29.7 per cent (23 million deciatines) of arable land was lying fallow; see *Pogubernski itogi Vserossiskoi selskokhozyaistvennoi i pozemelnoi perepisi 1917 goda* (*Returns of the All-Russian Agricultural and Land Census of 1917*), Moscow, 1921.

plete colonization of its wide expanse. Neither had he made use of all the resources of science to extract the incalculable wealth hidden within its boundaries.

The attempt to ascertain the area of arable land in Asiatic Russia was first made on the initiative of M. Stolypin, Prime Minister from 1905 to 1911, who wanted to develop and systematize its colonization. The work was begun in 1911 and was interrupted in 1914 by the War. Only about one-third of the program had been accomplished, and only one-third of the territory of Asiatic Russia had been investigated. Within these limits 111 million deciatines suitable for occupation had been registered.

Even if we accept the opinion that agriculture cannot be successfully extended in the north of Siberia beyond its present limit (58° north latitude), we must bear in mind how wide from west to east is the expanse farther south, from the Urals to the Pacific Ocean, containing no less than 640 million deciatines. The American Investigation Society of Siberia has arrived at the same results. It estimates the area of land suitable for cultivation at over 600 million deciatines.

Professor Pestrzhetsky[9] considers 55° north latitude to be the extreme northern limit of agriculture at the present time, and makes a very careful calculation of the area immediately suited for the settlers from European Russia. For this he gives the figure of 300 million deciatines.

If we accept this estimate, we get a total area of productive land equal to 1,043.1 million deciatines (2,816 million acres) for that part of Russia which had been investigated before the War. It is subdivided in the following manner:

[9] Pestrzhetsky, *Okolo zemli* (*The Land Problem*), Berlin, 1922, p. 22.

ARABLE LAND, PASTURES, FORESTS, AND LAND NOT SUITED FOR CULTIVATION

Categories of land	*European Russia (50 provinces)*	*Caucasus*	*Asiatic Russia*	*Total*
		(in millions of deciatines)		
Arable land	207.0	12.4	300.0	519.4
Natural meadows and pastures	23.1	1.7	10.3[10]	35.1
Forests	165.1	7.4	316.1	488.6
Total of productive land	395.2	21.5	626.4	1,043.1
Land not suited for cultivation and land of unknown quality	46.3	21.4	843.0	910.7
Total	441.5	42.9	1,469.4	1,953.8[11]

There can be no doubt that a great part of the forest areas could be converted into arable land. This has constantly been done in the past. The clearing and plowing of forest land is a very common feature of Russian agricultural life.

But even on the supposition that the forest area was not suited for agriculture and ought not to be converted—and as regards European Russia this view is perfectly correct—we still find that only one-third of the land suited for agriculture had been turned to profit. As regards Asiatic Russia the tillage of cultivable land had only been begun. In this respect Russia stood far behind all other countries in Asia, Europe, and America.

Distribution of Land According to Ownership and Economic Characteristics.

Land tenure in Russia differed widely as to the subject of the tenure, that is, the person or institution in whom the tenure is vested, and as to the rights and duties incident to it. Land was owned by the State, the Appanages, His Majesty's Cabinet,[12] municipalities,

[10] The area of meadowland in Asiatic Russia is many times the official figure, but it has never been surveyed.

[11] This does not include Poland. If it were included, the figure would be 1,965 million deciatines.

[12] Russian law made a distinction between State domains, domains of the Imperial Family (appanages), and private domains of the Emperor ("cabinet" estates).

zemstvos, churches, monasteries, corporations, charitable institutions, the Cossacks, peasant communities and partnerships, and private persons belonging to social groups which differed considerably in their legal status: the gentry, peasants, merchants, commoners (*meshchane*), and foreigners.

The rights and duties incident to the ownership of land were also by no means uniform. In this respect land tenure may be classified as follows: (1) land belonging to the State and other public institutions; (2) individual private property in land; (3) land owned privately by corporations and partnerships; (4) peasant allotment land (*nadel*)[13] which may be (a) in communal or (b) in family holding (*podvornoe*).[14]

We have more or less exact official data regarding the areas held by different classes of owners for only two periods: 1877–1878, when the Central Statistical Committee took a census in fifty provinces of European Russia; and 1905, when a second census, also for European Russia, was taken. The results of this census were pub-

[13] The Emancipation Act of 1861 provided that all liberated serfs (with one exception dealt with below) should not only remain owners of their cottages, gardens, etc., but also be endowed—out of the estate—with an area of land sufficient to enable them to continue their existence as farmers. The area to be taken from the estate was to be calculated on the basis (1) of the number of persons to be provided for, and (2) of the average quality of the land in each province, as scheduled in an appendix which formed part of the Act.

The exception above mentioned referred to those who were registered as domestic serfs (*dvorovie*). These were left out of the endowment.

The peasants did not as a rule become full owners of the land apportioned to them; it was handed over *en bloc* to the several village communities (*mir*), which were expected to distribute it among their members equitably. This meant that the land might be apportioned afresh should some families increase or decrease. The State undertook to indemnify the landowners in government bonds for the land taken from them, and the peasants were required to provide the interest and sinking fund on these bonds by annual redemption payments.

It must be noted that the peasants were given the option either of accepting the whole grant of land according to schedule, undertaking at the same time to pay the annuities as explained above, or of declaring themselves satisfied with one-quarter of the area as fixed by the schedule, in which case no payment was required. In some parts of Russia the number of communities that opted for the second method was very considerable.

[14] See p. 20, n. 16.

lished officially.[15] Besides this, we have the figures of the allotments granted to peasants after the emancipation. All these data deal only with the category of land termed "cultivable" in the title deeds. Its distribution among various categories of owners was as follows:

DISTRIBUTION OF LAND AMONG VARIOUS CATEGORIES OF OWNERS IN EUROPEAN RUSSIA

Categories of land	*1861–1870*	*1877–1878*	*1905*
	(in millions of deciatines)		
The State and public institutions	....	166.3	154.7
Peasant allotments[16]	111.6	116.7	133.8
Owned by private persons:			
a. Gentry	....	73.2	58.2
b. Peasants	....	5.0	24.7
c. Other social groups	....	15.8	23.8
Total	....	377.0	395.2[17]

This table shows the transformation that had been taking place in the ownership of land: the land held by peasants had increased at the expense of that held by the gentry and the State. The principal decrease occurred in the area held by the gentry.

If we take into consideration only the area held by peasants, we arrive at the following figures:

[15] *Statistika zemlevladenya v 1905 godu* (*Statistics of Land-Tenure in 1905*).

[16] It is important to bear in mind the legal distinction which existed between allotment land and the land held in private ownership by individual peasants. The ownership of allotment land, if it was not in communal tenure, was vested in the joint family which the Supreme Court of Russia (the Senate) made attempts to interpret as a *juridical person*. It failed, however, to establish a clear distinction between the house-elder, as a private individual and as the head of the joint family. The legal situation remained extremely confused until the legislation passed in 1906–1910 by M. Stolypin, when the house-elder was recognized the absolute owner of the allotment, thus depriving the junior members of the family of their claims without any indemnity.

[17] The increase of over 18 million deciatines of the total area may be attributed to a more exact registration, and to the fact that some land formerly considered uncultivable was now registered as cultivable.

LAND HELD BY THE PEASANTS IN 1877–1878 AND IN 1905

Categories of land	1877–1878 Area (in millions of deciatines)	1877–1878 Percentage of the total area of cultivable land	1905 Area (in millions of deciatines)	1905 Percentage of the total area of cultivable land
Land held by allotment	116.7	30.9	133.8	33.9
Land privately held by peasants	5.0	1.3	24.7	6.2
Total	121.7	32.2	158.5	40.1

Thus we see that in a period of twenty-seven years the proportion of cultivable land held by peasants increased by over 9 per cent. Even if we bear in mind that different methods of registration were employed, and that this may have somewhat modified the resulting figures, we may still be sure that not less than 40 million deciatines were added to peasant holdings. It is also significant that the extension of land privately held was much more rapid than that of the holdings. This very characteristic feature becomes extremely prominent during the ensuing period.

After the revolutionary outburst of 1905–1906 and the ensuing agrarian disturbances (especially in the black-soil belt), a very marked change occurred as regards land held in private ownership, and particularly as regards estates belonging to the gentry. These were frequently parceled out and sold in lots, or sold as whole estates. They were transferred through the intermediary of the Peasant Bank, or sold on the open market. In 1905, the Peasant Bank owned a reserve of 1.5 million deciatines; and another 8.2 million deciatines were offered for sale.[18]

The statistics regarding the changes in landownership published by the Ministry of Finance were unfortunately always very belated, so that it was not possible to make an exact estimate of the area of land that was transferred from the gentry to the peasants during the period 1906–1917. But the figures published show that, at least in certain years, the area so sold was no less than two million deciatines. It generally formed part of estates of over 500 deciatines.

[18] The reserve of land held by the Peasant Land Bank on January 1, 1908, was 3.3 million deciatines; it increased to 4.5 million deciatines by January 1, 1909. From that year onward the size of the land reserve was steadily decreasing, and it came down to 2.6 million deciatines by January 1, 1915.

Professor Pestrzhetsky,[19] who is familiar with the statistical materials on the subject (part of which has not been published), estimates the area of land privately owned by non-peasants on January 1, 1917, as follows: gentry, 42.5 million deciatines; merchants,[20] 13.5 million deciatines; commoners, 4 million deciatines; and foreigners, 3 million deciatines.

These figures are perhaps unduly high. All available material regarding the changes that had taken place in landownership during the above-mentioned period suggest that considerably less than 42 million deciatines remained in the hands of the gentry.

According to the calculations of the same author, the decrease during these eleven years in the area privately held was exclusively the result of the sale of estates belonging to the gentry. These sales figure at eleven million deciatines, that is, at one million deciatines a year. But various data that we possess indicate that this process of attrition, to which the land of the gentry was subjected, must have taken even greater proportions.

Let us, however, assume that the figures given are correct. The land held by peasants was increasing not only at the expense of that held by other private landowners (9.7 million deciatines), but also out of the land which had been set apart as a special land reserve for sale to the more needy peasants or to form additional holdings; 7.5 million deciatines belonging to the State and 1.9 million deciatines belonging to the Appanages had been transferred to the peasantry during this period.

Consequently by January 1, 1917, the area of land suitable for cultivation held by the peasants—both communal as allotment land and in private ownership—had reached at least 185 million deciatines (488 million acres), even if we assume that the whole area of State and appanage land set aside as a land reserve for the development of peasant agriculture had not yet been handed over to the peasants.

By January 1, 1917, the distribution of land in European Russia was as follows: peasants, 185 million deciatines or 46.8 per cent; State and public institutions, 147.2 million deciatines or 37.3 per

[19] D. I. Pestrzhetsky, *op. cit.*, pp. 19, 20.

[20] This group also included the so-called "honorary citizens," a title coupled with certain privileges.

cent; private owners other than peasants, 63 million deciatines or 15.9 per cent.

These figures show that since the abolition of serfdom, that is, within fifty years, the area held by the peasants had increased by 50 per cent. The number of individual peasant holdings[21] had doubled. This of course involved a certain decrease in the average size of the peasant farm holding. In 1861 it averaged 13.2 deciatines. The decrease must be put at not less than 10 per cent. It was somewhat more pronounced on allotment land than on the land privately held by the peasants.

The agricultural census of 1916 enables us to determine, on the basis of the present yield per acre, the area that must be sown in order to provide the grain normally required by a peasant household. The per head area is 0.17 deciatine for rye, 0.12 for wheat, 0.10 for oats, and 0.04 for barley; giving a total for the four cereals of 0.43 deciatine.

According to the same census the average number of persons per household must be taken as 5.3. Consequently, the normal area under cereals must be fixed at 2.28 deciatines per household. This proves, even though the average size of the holdings had grown somewhat less within the last fifty years, that there still remained scope for the further development of agriculture within the limits of each holding.

In 1916, the average size of a peasant holding was 11.9 deciatines. Of this area 2.28 deciatines were necessary to provide bare subsistence. The area actually under crops was 4.1 deciatines.

These figures show that the average peasant household cultivated little more than a third of the land belonging to it, and that more than a half of the land (58 per cent) was allowed to lie fallow.

Down to the critical years 1905–1906 private owners other than peasants used to cultivate a larger portion of their arable land. After 1906 we see a great change: the area under cultivation is reduced. Every year this process assumes greater proportions, so that toward 1916 only 7.68 million deciatines, or one-tenth of the total area, are cultivated.

[21] For every 100 holdings in 1861 we find 184 in 1915 according to the incomplete returns which give no figures for two provinces.

Small and Large Farms.

The political crisis of 1905–1906 struck a terrible blow at the landed gentry. For them it was the beginning of the end, though during the ensuing years they still struggled on more or less successfully. The final catastrophe occurred in 1917, when the old forms of private ownership were swept away, and a new and not yet clearly defined process began.

As early as 1916 private ownership of land had ceased to play any but a very secondary part. The average area cultivated by a single owner had reached, for Russia, very diminutive figures, varying from 170 to 5.5 deciatines.

AVERAGE AREA UNDER CROPS PER OWNER AND NUMBER OF PRIVATELY OWNED FARMS

Region	*Area*[22] (*in deciatines*)	*Number*[23]
Southwestern	170.4	7,900
Southern (Novorossisk)	113.0	19,500
Middle Volga	110.4	5,800
Baltic provinces	99.4	2,500
Central Agricultural	80.2	16,600
Lower Volga	76.8	7,400
Little Russia	74.3	11,400
White Russia	40.2	10,700
Lake	13.6	4,900
Northern	12.1	300
Ural	6.2	3,200
Central Industrial	5.5	21,300
European Russia	69.8	111,500

In 1916, private landownership was still tolerably prosperous in five out of the twelve regions,[24] the Southwestern, the Southern, the

[22] *Predvaritelnie itogi Vserossiskoi selskokhozyaistvennoi perepisi 1916 goda* (*Preliminary Returns of the Russian Agricultural Census of 1916*), Petrograd, 1916, p. xxvii. The grouping of provinces into regions is that adopted by the Ministry of Agriculture.

[23] *Ibid.*, pp. 462–624.

[24] The composition of the regions is as follows:

Southern (*Novorossisk*): Provinces of Bessarabia, Kherson, Taurida, Ekaterinoslav, and the Don Territory.

Lower Volga: Provinces of Samara, Orenburg, and Astrakhan.

Central Agricultural, Little Russia, and White Russia. Only in the first three of these was it still of some importance. In each of them there were over a million deciatines under cultivation belonging to non-peasant owners. In the other regions it was gradually disappearing; and in the central region, near Moscow, almost the only remaining vestiges of such private ownership were the large country houses with their adjoining grounds, and a number of smaller residences.

There has been in Russia a very marked tendency toward the peasant farm type of agriculture. So that at the end of the nineteenth and the beginning of the twentieth centuries all agricultural development was in the direction of the improvement and extension of peasant farming.

Area under Crops.

We have pointed out that the area under cereals always tended to increase with the population. This process, however, did not manifest itself in all parts of Russia. In some regions we even see the opposite: the area under cereals diminishing. M. Savitsky, a young Russian student, has given us a detailed survey of the changes that have taken place in the area under crops, the figures being taken from official returns.[25] The following table is based on statistics quoted in his article.

Northern: Provinces of Vologda, and Archangel.
White Russia: Provinces of Mogilev, Minsk, Vitebsk, and Smolensk.
Baltic: Provinces of Livonia, Courland, and Esthonia.
Southeastern: Provinces of Podolia, Volhynia, and Kiev.
Middle Volga: Provinces of Saratov, Simbirsk, Penza, Kazan, Nizhni-Novgorod, and Ufa.
Little Russia (Ukrainian): Provinces of Kharkov, Chernigov, and Poltava.
Ural: Provinces of Vyatka and Perm.
Lake: Provinces of St. Petersburg, Pskov, Novgorod, and Olonets.
Central Agricultural: Provinces of Kursk, Orel, Tula, Ryazan, Tambov, and Voronezh.
Central Industrial: Provinces of Vladimir, Moscow, Kaluga, Tver, Yaroslavl, and Kostroma.

[25] *Trudi russkikh uchenikh za granitsei (Works of Russian Scholars Residing Abroad)*, edited by Professor Kaminka, published by the Russian Academic Group in Berlin, Vol. II, 1923, pp. 158 *sqq.*

TOTAL AREA UNDER RYE, WHEAT, OATS, AND BARLEY

Regions	*1881–1890* (*in millions of deciatines*)	*1891–1900*	*Percentage of increase or decrease*	*1901–1910* (*in millions of deciatines*)	*Percentage of increase or decrease: as compared with 1891–1900*	*for the whole period*
Southern (Novorossisk)	9.5	11.6	+22.1	14.6	+25.0	+52.6
Lower Volga	3.9	4.0	+1.8	6.0	+48.5	+51.2
Northern	0.5	0.6	+17.7	0.6	+0.6	+18.4
White Russia	4.7	5.3	+12.5	5.5	+3.8	+16.1
Baltic provinces	0.9	1.0	+6.7	1.0	+6.2	+14.4
Southwestern	3.6	3.8	+4.4	4.0	+7.3	+13.3
Middle Volga	7.8	7.4	—5.1	8.5	+15.7	+9.9
Little Russia	4.1	4.3	+2.4	4.6	+7.0	+9.6
Ural	4.6	4.4	—4.5	4.8	+10.0	+5.2
Lake	1.6	1.5	—3.3	1.5	+0.4	—2.6
Central Agricultural	8.8	8.0	—10.2	8.3	+6.2	—6.2
Central Industrial	3.9	3.6	—10.8	3.4	—4.3	—15.5
Total for European Russia (excluding the Caucasus)	53.9	55.3	+2.6	62.8	+11.7	+16.5

As rye, wheat, oats, and barley occupied about nine-tenths of the total area under cereals, we may assume that the changes in the area of these four cereals indicate with fair accuracy the general evolution of agriculture. The table shows that the cultivation of grain developed very slowly from the eighties to the end of the nineteenth century. During this period it increased by only 1.4 million deciatines, or 2.6 per cent. Only two regions showed any considerable advance: the Southern region, with its rich black soil and intensive colonization; and White Russia, where the colonization had begun long ago and where there was already a dense population; here the land was comparatively poor. These two regions alone gave an increase of 2.7 million deciatines. The other five regions in which the area under grain had extended showed between them an increase of less than half a million deciatines.

Two regions showed a decided tendency to reduce the area of grain cultivation. They are very dissimilar. One is the Central Agricultural, with its first-rate black soil, an exclusively agricultural region. The other, the Central Industrial, possesses no black

soil, but a soil of moderate fertility. On the other hand, it is near Moscow and has a well-developed industry. It is interesting to note that the relative decrease in the area under grain in these two regions is expressed by nearly the same figure—10.2 and 10.8 per cent respectively.

From the beginning of the twentieth century this extension of the area under cultivation proceeded more rapidly. As a result we see that toward the end of the first decade of the twentieth century the grain-growing area of the fifty provinces of European Russia had increased by nearly 9 million deciatines, or 16.5 per cent, as compared with 1881–1890. In this respect, the south (Novorossisk), the southwest, the west (White Russia), and the Volga regions stand at the head of the list, with an increase of over 9 million deciatines. At the bottom of the list we find the same two central regions: the Agricultural and the Industrial, with decreases amounting to a million deciatines.

This proves that neither the quality of the soil, nor the density of population, nor the abundance of virgin soil, is of decisive importance in determining the increase or decrease of the area of grain cultivation. For instance, in the Northern region, in the province of Vologda, where there is a superabundance of land and where the country is but sparsely populated, the area increased by only 100,000 deciatines. In the Central Agricultural region, where the population was denser, not only were some very fertile lands allowed to remain untilled, but the total area under grain was reduced by 500,000 deciatines. The same thing occurred in the densely populated Industrial region. On the contrary, in White Russia, which is as densely populated as some of the Central Agricultural provinces, but which has a much less fertile soil, the area under grain increased by three-quarters of a million deciatines. The very densely populated Southwestern region, which has a very fertile soil, increased the area of tillage by half a million deciatines.

The decrease of the area under crops in the Central (Moscow) region may evidently be attributed to a vigorous industrial development. Mills and factories competed with agriculture in attracting the adult rural population. As a result, agriculture declined, even though the proximity of so large a center as Moscow, with its constant demand for foodstuffs and its elaborate network of railways, was calculated to favor certain branches of agriculture.

The same may be observed in the Lake region, with St. Petersburg as its industrial center. Here, too, the cultivated area was reduced, notwithstanding a great abundance of land.

The changes that took place in the extent of cultivation in the exclusively agricultural regions of Russia may be explained as follows: (1) the area of cultivation tended to expand in regions that possessed a stable population and an agriculture of long standing;[26] (2) regions where agriculture had been only recently introduced, and where there was still much land available, attracted new settlers;[27] (3) in regions occupying a central position the rural population, though actually settled on their own farms, had not yet lost all the characteristics of a nomadic people. They scarcely valued their inherited homesteads, and would easily forsake them in search of better conditions.[28]

The agriculture of each region was affected by local conditions. In regions where the population was stable and agriculture of long standing we see a decided tendency to adopt more intensive methods. Here the yields were comparatively high and did not vary considerably. In regions undergoing a process of colonization, agriculture was very primitive and its fluctuations from year to year were strongly marked. In transitional regions, with a not too stable population, primitive methods of agriculture hindered the development of more intensive farming. As a result, the harvest here also fluctuated considerably.

It is worthy of notice that the total area of cultivated land declined in industrial districts where agriculture had been long established, and where the population was firmly settled, sometimes traveling from village to factory and back again, but seldom quite forsaking their own homes. Here, however, more intensive methods of agriculture were often adopted even under communal landholding.[29]

Social Structure of Land Tenure.

Before the Revolution of 1917, the population of Russia was divided into classes which differed widely from the point of view of

[26] White Russia, Baltic provinces, Southwestern region, Little Russia.

[27] Southern, Volga region, Ural; also northern Caucasus.

[28] This is typical of the Central Agricultural region.

[29] Grass culture, dairying, etc.; see Chapter II.

the legal status of their members. Consequently to get a clear idea of the social structure of Russian land tenure we must classify them under several heads. The data of Lokhtin for 1892[30] give the following figures relating to fifty provinces of European Russia:

SOCIAL STRUCTURE OF LANDOWNERSHIP

Categories of owners	*Number of owners*	*Total number of owners, including members of families*
Peasants farming on allotment land[31]	10,589,900	68,300,000
Peasants holding land privately	273,000	1,774,000
Gentry	114,700	861,000
Commoners	58,000	434,000
Merchants	12,600	98,000
Miscellaneous: clergy, soldiers, foreigners, etc.	22,900	172,000
Total	11,071,100	71,639,000

It appears from this table that peasant owners constituted 98.1 per cent of the whole number of owners; and they and their families, 97.9 per cent of the group formed by the owners and their families. The gentry, who come next, amounted to only 1 per cent. Among the owners who held land privately the peasants represented more than one-half (56 per cent), and the gentry merely one-fifth (21.8 per cent) of the total number. At the date under consideration—in 1892—the average size of a privately owned farm was about 200 deciatines.

According to the census of 1905 there were 827,500 privately owned estates and farms, including those belonging to corporations and institutions. At that time the number of peasant holdings was estimated at 12.2 millions. The total number of landowners must therefore have been about 13 millions, an increase of 18.1 per cent as compared with 1892. On the other hand, the average size of a privately owned farm was reduced to 111.8 deciatines.

Given the conditions of Russian agriculture, 200 deciatines or less can hardly be regarded as a "large estate." Larger estates may be classified as follows:

[30] P. M. Lokhtin, *op. cit.*, pp. 131–138.

[31] See p. 19, n. 13; also p. 20, n. 16.

LARGE ESTATES

	Number	*Percentage of total number of farms*
200 to 500 deciatines	38,602	4.6
500 to 1,000 deciatines	17,136	2.1
Over 1,000 deciatines	15,970	1.9
Total	71,708	8.6

All other farms owned by non-peasants fall within the class of small holdings. The average size of these was about 24 deciatines. This was less than the average size of a peasant privately owned farm which, according to the census of 1905, was estimated at 26.6 deciatines. Half of the farms (419,000) were not over 10 deciatines on the average.

Though the area of large estates formed a relatively small part of the total area of land held privately, 4.3 per cent, it included the greater part of the land privately owned by owners other than peasants.[32] It formed a substantial land reserve, out of which, ever since 1905, numerous sales had been going on and the land gradually passing over almost entirely into peasant hands.

If the prosperity of large estates was declining, and they were often looked upon only as a mere land reserve, on the other hand, small holdings which occupied a relatively large area showed signs of growing prosperity. Investigations carried on in 1906 by local zemstvos (especially for the province of Poltava) clearly indicate the progress of this class of farms. They, like much else, have been destroyed by the Revolution of 1917.

The distribution of peasant holdings on the allotment land is shown by the following table:

[32] We must not, however, forget (1) that the census of 1905 included under the category of "private ownership" land belonging to churches, to monasteries, to institutions, and others; and (2) that a considerable part of large estates consisted of forests.

PEASANT HOLDINGS ON ALLOTMENT LAND

	1877–1878[33] (*49 provinces*)		*1905*[34] (*50 provinces*)	
Size of holdings	*Number of holdings*	*Percentage of the total number*	*Number of holdings*	*Percentage of the total number*
Under 2 deciatines (5.4 acres)	375,000	4.4	580,200	4.7
2 to 5 deciatines (5.4 to 13.5 acres)	516,400	6.2	2,276,700	18.6
5 to 20 deciatines (13.5 to 54 acres)	7,533,600	77.8	8,123,600	66.1
Over 20 deciatines (over 54 acres)	972,300	11.6	1,294,500	10.6
Total	9,397,300	100.0	12,275,000	100.0
Unknown			23,000	
Total			12,298,000	

The above table shows that in a little more than a quarter of a century the number of peasant holdings of all categories had greatly increased. The greatest increase occurred in the second category (2 to 5 deciatines). The relative number of holdings of 5 to 20 deciatines had decreased. The numbers in the two extreme categories—under 2 and over 20 deciatines—had remained comparatively stationary.[35]

Thus in 1905 over three-fourths of the peasant holdings belonged to a type of farm which was provided with a sufficient area of land and was on the whole economically sound. But the economic possibilities peculiar to each of these types of holding were still very far from being fully turned to account. Farming had not become intensive and about two-thirds of the land comprised in peasant farms remained practically unused.

The first two categories of peasant holdings on allotment land (not exceeding 5 deciatines) constituted somewhat less than a quarter of the total number. It was in this social stratum that the relative overpopulation, the feeling of being hemmed in, existed. This feel-

[33] P. M. Lokhtin, *op. cit.*, pp. 140–141.

[34] Data of the land census of 1905.

[35] We are unfortunately unable to establish on the basis of the census of 1916 the transformations which had taken place in these categories. Probably the general tendency of development had not changed.

ing lay at the bottom of the agrarian question, which was growing more and more acute in Russia. It should not, however, be inferred from this that the occupiers of these small holdings had done everything in their power to render their cultivation intensive. Nowhere, perhaps, were primitive methods of agriculture so common as among the farmers of this group.

Communal Tenure.

The peasant tenure of allotment land was nearly always of a communal type. Only in the Baltic provinces, in Lithuania, in the Southwestern region and in Little Russia was individual (or rather family) ownership more usual.[36] As we advance from West to East this latter form of ownership plays a less and less considerable part. For the whole Empire the communal form of tenure covered five-sixths of the allotment land.[37] Still greater was its preponderance in Siberia, where there were very few exceptions to it.

We must not, however, suppose that the rights and obligations incident to communal tenure were uniform, or that they were not modified from time to time. On the contrary, under the outward rigid forms of communal tenure, a far-reaching and vigorous inner development was taking place. The general tendency was (1) to do away with any features of the communal type of land tenure that hindered independent agricultural activity; (2) to change over to individual forms of ownership.

A detailed examination of the problem of communal land tenure remains outside the scope of this work.[38] It will be enough to indicate a few facts that reflect the above process. The individual tenure of allotment land which existed in some provinces did not save the peasants from many of the hindrances and discomforts that result from communal tenure; for instance, the division of plots into scattered strips—the configuration of the holdings that was sometimes very inconvenient; the compulsory rotation of crops; herding of cattle in common; and in connection therewith, grazing on the fields

[36] See p. 20, n. 16.

[37] Data of the land statistics for 1905, see A. N. Chelintsev, *Selskokhozyaistvennaya geografya Rossii* (*The Agricultural Geography of Russia*), Prague, 1924, p. 116.

[38] See Professor A. D. Bilimovich, "The Land Settlement in Russia and the War," in this volume.

set aside for winter seeding, etc.[39] It appears that individual tenure did not even always protect the peasants against reapportionments of the land, though this was against the law.

On the other hand much of the communal land, especially of that which belonged to former serfs, had never been redistributed since the Emancipation of 1861. Consequently, the chief and most essential principle of communal tenure, the constant adjustment of the quantity of land to the size of the family, was never realized. Communal ownership was *de facto* transformed into individual tenure; however, this did not do away with the economic drawbacks above mentioned.

An important fact was the customary exchange of plots held by peasants under the communal arrangement. This exchange, which took the form of private transactions, was often conditioned by cash payments. It was of very frequent occurrence and happened either at the time of the official redistributions, or immediately after them. In this manner it became possible to mitigate the unavoidable injustice and the economic disadvantages inherent in the latter.

We must also mention the habit of leasing plots by peasants under the communal arrangement. These leases were looked upon as private transactions; and though they were contrary to the principles of communal tenure, were quite customary. They varied in type; there were short- and long-term leases; the rent was payable in cash, or out of the produce of the land. There even existed a way of selling allotments altogether, under the guise of a long-term lease.

After the revolutionary outbreak of 1905, Russian legislation manifested a most decided reaction against the principles of communal tenure. Attempts were made to replace it by individual ownership. Three legislative measures were adopted on the initiative of the late Prime Minister, M. Stolypin: a law of November 9, 1906, permitting communal land to be converted into personal property; the law of June 14, 1910; and the Land Settlement Act of 1911. The effects of this legislation are discussed in the second part of this volume.

[39] Already in the eighteenth century the well-known Shubart, after having visited Russia, used the following aphorism to describe the conditions there: "Hut, Trift und Brache—die grossten Gebrechen und die Pest der russischen Landwirtschaft"; see Lokhtin, *op. cit.*, p. 308.

The moral awakening called forth by the Revolution of 1905–1906 had a great influence on agrarian conditions.

> It had shaken up the century-old routine; it had awakened the imagination of the masses; it had stimulated their energy. The agrarian policy of the Government gave an outlet to these creative forces. On the eve of the War the more energetic peasants had eagerly profited by this opportunity. Some built up their farms on land acquired with the assistance of the Peasant Bank; others settled on separate farms, breaking with the commune under the provisions of Stolypin's land acts; others went eastward, to Siberia, in search of virgin soil. The more educated elements among the peasants inclined toward coöperative forms of farming. Never had the signs of progress in Russian agriculture been more evident than on the eve of the War. The communal form of land tenure was visibly breaking up, and at the same time the cry for a general redistribution of all land was growing less clamorous. Nothing seemed to predict a storm.[40]

Toward 1917 the area of land held by the peasants had increased to 40 million deciatines; consequently, M. Oganovsky is probably right when he estimates the number of individual peasant farms at 7.7 millions.[41] This shows that on the eve of the Revolution of 1917 about half the peasant households in European Russia had freed themselves from the archaic communal forms of land tenure, and had adopted more modern methods of agriculture.[42] It is interesting to note that the agrarian legislation was well received and rather widely adopted even in Siberia with its primitive agriculture and vast expanse of land. And this, notwithstanding the absence of official organizations and official land surveyors to carry out the reforms.[43]

[40] B. Brutzkus, *O prirode russkavo agrarnavo krisisa* (*The Agrarian Crisis in Russia*), in a collection of articles dedicated to P. B. Struve, Prague, 1925.

[41] N. Oganovsky, in the volume *O zemle* (*About Land*), Moscow, 1921, p. 82. M. Oganovsky, an extreme socialist, was one of the warmest supporters of the communal land tenure. It is difficult, therefore, to suspect him of being too optimistic in his estimate of the growth of individual farming.

[42] This process was interrupted for a short time by the Revolution of 1917, but is now continuing at as rapid a pace in Soviet Russia as before the War.

[43] For a detailed treatment, see below, pp. 340 *sqq.*

Leases.

Besides these two fundamental and permanent forms of land tenure, there also existed among the peasants of European Russia temporary forms of tenure, which played a rather important part. These were the two types of long-term leases: the intra-allotment leases, that is, the leasing of plots held by the peasants under the communal arrangement to their fellow villager or to outsiders; and the extra-allotment leases, or the leasing of land other than the allotment land vested in the village community. Both economically and socially there was a difference between these two types. Intra-allotment leases undermined the communal order of land tenure. But besides this negative characteristic, they also succeeded in furthering the transfer of allotment land from one social stratum to another, without increasing the total area of such holdings. By these leases, the allotment land tended to pass from economically weak families into the hands of those that were economically sound. The practice was chiefly adopted in families where the father or the adult son was dead, or where the live stock had been sold; or when the family had decided to remove to a new country; or when the personal characteristics of the head of the family rendered him incapable of managing his establishment, etc. In such cases the whole allotment, or perhaps only a part of it, would pass into the hands of a stronger family, a family striving after agricultural progress. And here we must note that the greater the amount of land a household possessed, the more it would desire to lease additional land. This tendency, however, prevailed only up to a certain point. The families adequately provided with land seldom leased allotments. In view of this situation it becomes evident that allotments were often leased much below market value. In some cases the very peasant who had leased away his share in the communal holding would, when he had bettered himself, take on lease a plot of land from private owners and start farming anew. When allotments were leased there was generally a certain degree of exploitation of the weaker elements of the community by the stronger. Unfortunately, we do not possess any data regarding the number and area of such leases. No statistical material regarding them exists in the zemstvos. But there can be no doubt that they were fairly frequent.

The leases of privately owned land had an entirely different char-

acter. They were a natural and normal transaction. The importance for the peasants of these leases was evidently considerable. According to official data, the area of individually leased, cultivated land attained, as early as 1881, the impressive figure of 6.1 million deciatines. There can be no doubt that the actual figure was even higher,[44] first, because the census of 1881 took into account only the land actually cultivated for that year, and did not reckon in its estimates the land lying fallow for winter sowing; secondly, because these leases were often so short that they might easily be overlooked by the officials who took the census.

This type of peasant leases was of little value to the economic life of the country. It was usually to the following effect: the peasant took on lease a so-called "round of land," that is, one deciatine[45] for winter cereals, one for summer cereals, one for fallowing. This last he would prepare for the autumn sowing only if he intended to renew his lease for another year. Leases of three years were less frequent.

Because of the very short term of these leases no fertilizers would be used and the fields would be carelessly tilled. Altogether this type of lease led to a rather primitive and uneconomical method of cultivation, so that the land which had been leased under it for a number of years would begin to lose its fertility and would yield but poor crops even in the fertile black-soil belt. The country, on the whole, suffered from such short leases. In Russian literature it used to be looked upon as a well-established and undoubted fact that these leases of private land were necessary to enable the peasants to feed their families; that without this additional resource the peasant could not suffice for his own needs.[46] This "well established and undoubted" statement must, however, be looked upon as exceedingly questionable. It expresses not an actual relation of cause and effect,

[44] M. Chelintsev thinks that the area thus leased may be estimated at 33 or 34 million deciatines. Of this number 27 or 28 million deciatines were leased from private landlords, and 5 or 6 million deciatines from the State and appanages. See Chelintsev, *op. cit.*, p. 120. These figures seem to be excessive.

[45] The area actually leased varied, but the proportion between the different categories of land was usually maintained.

[46] See Karyshev, *Krestyanskya vnenadelnya arendi* (*Peasant Leases of Privately Owned Lands*), in the volume *Agrarni vopros* (*The Agrarian Problem*), Moscow, 1897.

but an ingrained belief, common among that part of the Russian educated classes who had a tendency to idealize the peasant. It is, first of all, contradicted by those general facts to which we have already referred, that the food requirements of the Russian population in general, and the peasants in particular, were always amply satisfied (that is, before 1917), while two-thirds of the land belonging to the peasants was not utilized or turned to account. Peasant farming, both on allotment land and on land held privately, was progressing rapidly, and leasings of private estates by peasants were not only not diminishing, but increasing likewise.

There can be no doubt that very different motives impelled the peasants to take land on lease. But if we asserted that the desire to acquire profit played no part in their calculations, we should be simply ignoring very obvious facts and a fundamental feature of human nature. No doubt these calculations were not always realized, but it would be naïve to suppose that they did not exist in the minds of the Russian peasant-farmers. It often happened in the black-soil region that a peasant would sow the market cereal—wheat—on his own well-cultivated land, while in order to grow rye, which was needed for his own maintenance and that of his family, he would take a deciatine or two on lease. In such a case, however, we should not be warranted in saying that he was leasing land to satisfy his urgent needs.[47]

Agricultural Labor.

In the provinces of Russia the great mass of agricultural labor was furnished by the peasants. Even toward the beginning of the twentieth century, when the owners of private estates tended somewhat to enlarge the area that they cultivated, the necessary supply of labor was provided by the following classes of the local population: (1) the landless peasants, mostly former servants (*dvorovie*) who received no land on emancipation; (2) peasants who held very small allotments, chiefly from the class of former serfs who accepted at the time of emancipation "gratuitous" allotments, amounting to

[47] But even if we were to admit the correctness of the statement that leases were exclusively the result of insufficient food supplies, we must not forget that this inference was drawn from the zemstvo statistics for the years 1880–1890. Since then, both the fundamental conditions of rural economy and the tendency of further evolution have greatly changed.

only one-quarter of the normal allotment (but exempt from redemption payments); (3) and lastly, large families holding a sufficient area of land to satisfy their own needs, but having enough adult members to be able to spare some for hired labor.

On estates where the system of agriculture was still rather primitive, the number of permanent laborers was not very large. It became even smaller when the cultivated area of private estates was reduced in the years preceding the Revolution. The data furnished by the agricultural census of 1916 allow us to infer that on the average we must reckon one laborer to every 4.3 deciatines of cultivated land, or 232 laborers to every 1,000 deciatines (2,700 acres).[48]

But at haymaking, harvesting, and threshing times, the seasonal demand for hired labor was considerable and it would often be difficult to find sufficient hands among the male peasant population. At such times female labor would be greatly in demand. This need of seasonal laborers was most acutely felt in newly colonized regions, in the steppes of south and in the Taurida province, in the territory of the Cossacks of the Don, and in the northern Caucasus. In connection with this demand we witness a strange phenomenon in central Russia, especially in its so-called "impoverished" agricultural center.[49] Every year there would be a steady southward migration of the adult male population in search of work. Generally the whole journey, there and back, was done on foot. The peasants would just have time to arrive for the haymaking and to return home in time for the harvest, bringing back some paltry scores of rubles.

We can state positively that the type of permanent professional agricultural hired laborer, such as we see in western Europe, did not exist at all in Russia. The only exception to this was to be found in the Baltic provinces, where individual ownership of land was widely prevalent, where from 80 to 90 per cent of the peasants owned no land at all, and where agricultural conditions and problems were very different from those of the rest of Russia.

The great majority of laborers (not only seasonal labor, but even those permanently employed) did not lose touch with their

[48] According to the data of 1897 the number of agricultural laborers was estimated at 1,282,000 men, and 554,000 women, a total of 1,836,000.

[49] See above, p. 12.

homes and villages; their wages were not their sole means of subsistence, but only an additional source of revenue.

The Black-Soil Zone and the Less Fertile Regions.

Such are the general lines along which agricultural life was developing about the second decade of the twentieth century. Let us now give a cursory description of local conditions.

European Russia, if we exclude Poland, may be divided into two parts. The economic importance of these two parts is very unequal. They are the black-soil zone and the less fertile zone. The former consists of the following regions:

THE BLACK-SOIL ZONE

Regions	(*in square versts*)	(*in deciatines*)
Lower Volga	506,600	52,772,500
Middle Volga	359,900	37,690,800
Southern (Novorossisk)	354,500	36,927,300
Central Agricultural	262,200	27,313,400
Southwestern	144,700	15,073,400
Little Russia	137,700	14,344,200
Total	1,765,600	184,121,600

The less fertile zone was larger. It included 257.4 million deciatines. But the area of cultivated land within its limits was not great and remained stationary, amounting to about 20 million deciatines, which formed only one-fourth (26.1 per cent) of the total area under crops in European Russia. The other three-quarters belonged to the black-soil zone. In this latter zone the area under crops had a decided tendency to increase.

We must remember that the greater part of the forest area is situated in the less fertile zone; also, that the province of Archangel, with its severe climate and sterile soil, belonged to it. But still there can be no doubt that the land in it was but little cultivated and that the area under crops remained stationary, notwithstanding the rapid increase of the population; this points to backward forms of farming. Up to a certain point it was compensated by the fact that the crops were improving; this improvement proceeded more rapidly in the less fertile than in the black-soil zone.

The cereals grown in the less fertile zone formed less than one-

quarter (24.7 per cent) of the total produced in European Russia. But potatoes here were a prominent item, forming 45 per cent of the total crop.

Special and more profitable branches of agriculture began to spring up here and there, small patches in the vast expanse of the less fertile zone; stock breeding, dairying (this involved a regular system of sowing grass), vegetable and flax growing. All these were new departures; they were still merely the first steps toward more intensive farming. Strange to say, the crops of the less fertile zone, notwithstanding the great extent of land, did not suffice for the yearly consumption of its population, so that it was necessary to obtain supplies of grain from Siberia and the black-soil regions.

On the eve of the War, the average yields of cereals were higher in the less fertile than in the black-soil zone. This proves incontestably that the natural qualities of the soil outside the black-soil zone were no hindrance to the development of agriculture, while the continual increase in yield in this region gives ground for thinking that the limits to which it could be raised had not yet been reached.

The Caucasus.

The Caucasus consists of two very dissimilar portions: (1) the black-soil plain of northern Caucasus or Cis-Caucasia, which nature herself seems to have designed for agriculture; and (2) Trans-Caucasia, lying behind the Caucasus mountain ridge. This mountainous country has a warm, in some parts a subtropical, climate. The tenderest plants can be raised there, including all kinds of fruits and even the tea plant.

The whole territory may be subdivided as follows:

THE CAUCASUS

Subdivisions	*Area* (*in square versts*)	(*in deciatines*)
Kuban territory	83,600	8,708,000
Terek territory	64,300	6,698,000
Province of Stavropol	47,400	4,938,000
Total for Cis-Caucasia	195,300	20,344,000
Trans-Caucasia	217,000	22,606,000
Total for the Caucasus	412,300	42,950,000

The maximum area of cultivated land that had been attained by 1914 was 7 million deciatines, or 34.3 per cent of the total area, in Cis-Caucasia, and 2.8 million deciatines or 9.2 per cent in Trans-Caucasia.

Thus even in the northern Caucasus, with its extremely rich soil, agriculture was no more developed than in European Russia generally. In Trans-Caucasia it was incomparably lower than the average. In 1916 the area of cultivated land had been reduced to 5.6 million deciatines in Cis-Caucasia, and to 880,000 deciatines in Trans-Caucasia.[50]

Siberia and the Far East.

It is only during the twentieth century that the Russian people have begun systematically to exploit the agricultural possibilities of the immense expanse of Siberia. The one region of western Siberia in which butter making had become widespread some twenty years before the declaration of war comprised 1,144,000 square versts or 120 million deciatines, most of it exceedingly fertile black soil. This is the region where economic activity is strongly developed. The climate, very cold in winter and very warm in summer, does not hinder even wheat growing. The area of cultivated land in the whole of western Siberia had reached its maximum in 1914: 6.4 million deciatines. In 1916 it had fallen to 5 million deciatines.[51]

The conditions of first colonization in Siberia naturally gave rise to primitive forms of land tenure. Private ownership of land, in the European sense of the word, did not exist at all. All the land belonged to the State or to His Majesty's Cabinet.[52] Holdings for peasant communities were distributed out of this land reserve by the Government, or were arranged spontaneously by the peasants themselves. Land was held in communal tenure, subject to frequent redistributions, but of a somewhat peculiar type, including often the primitive rights of the first occupier. Even at the period when settlers were pouring in from European Russia in large numbers, each settler would receive a holding of 15 deciatines, so that in the years

[50] *Predvaritelnie itogi Vserossiskoi selskokhozyaistvennoi perepisi 1916 goda* (*Preliminary Returns of the Russian Agricultural Census of 1916*), Part II, Petrograd, 1917, pp. 94 *sqq.*

[51] *Ibid.*, Part III, p. 104.

[52] See below, p. 18, n. 12.

1906 to 1914 alone 51.9 million deciatines of arable land had been handed over to the peasants.[53]

Toward the south the western Siberian plains as well as the Altai highland merge into steppes. This is nearly virgin soil, and has seldom been touched by a plow. General natural conditions are somewhat worse than in western Siberia, although the climate is better. The area of the four regions of the steppe country is 202.8 million deciatines, of which less than 3 million deciatines (1.3 per cent) were cultivated before the War.

Still farther to the south, beyond Lake Balkhash, lies beautiful Turkestan. Its northeastern frontier touches the south Siberian steppes. At the present time Turkestan is almost barren, but it has been the cradle and the grave of many a civilization. Russian Turkestan extends over 121.2 million deciatines. Only 1.9 per cent of this area was cultivated. To bring the desert of Turkestan into cultivation all that is needed is irrigation. This work had been commenced and was continued down to 1917, though not on a sufficient scale.

The east Asiatic domains of Russia were subdivided into eight provinces which formed two regions: eastern Siberia and the Far East. The territory occupied by these was immense. The province of Yeniseisk alone (second in size) covers an area equal to half of European Russia. The following ten European States might be included within its limits: Great Britain, France, Germany, Italy, Spain, Belgium, Greece, Switzerland, Czechoslovakia, and Bulgaria.

The total area of eastern Siberia is 6,903,000 square versts, and that of the Far East is 2,137,700 square versts, a total of 9,041,000 square versts.

We leave out of consideration such immense regions as the Yakutsk territory and Kamchatka, for we have no reliable data regarding their agriculture. For the remainder of this vast territory the essential data are as follows:[54]

[53] Pestrzhetsky, *op. cit.*, p. 12.

[54] *Predvaritelnya itogi Vserossiskoi selskokhozyaistvennoi perepisi 1916 goda* (*Preliminary Returns of the Russian Agricultural Census of 1916*), Part III.

SIBERIA AND THE FAR EAST

Subdivisions	Total area (in square versts)	Total area (in deciatines)	Area under cultivation (in deciatines)	Area under cultivation Percentage
Eastern Siberia				
Province of Yeniseisk	2,236,000	232,924,100	636,600	0.27
Province of Irkutsk	638,700	66,533,400	384,200	0.57
Trans-Baikal region	542,800	56,583,800	441,600	0.78
Total	3,417,500	356,041,300	1,462,400	0.41
Far East				
Amur region	352,600	36,730,300	352,000	0.96
Maritime region	607,000	63,231,200	276,600	0.43
Sakhalin	33,500	3,489,700	500	...
Total	993,100	103,451,200	629,100	0.60

The census of 1916 showed that all the most important cereals cultivated in European Russia are also to be found in eastern Siberia, as well as oil-plants and potatoes. The cereal most widely grown is rye; it occupies about half the total area under cultivation (47 per cent). The next place is taken by wheat, which occupies over one-fifth (21.5 per cent) of the total area. The situation is much the same in the Far Eastern regions, but with the difference that here wheat and oats are the two most widespread cereals. In the Amur region wheat occupies 46.9 per cent of the total cultivated area.

Notwithstanding the limitless extent of eastern Siberia, the area of land cultivated by each household is smaller than in the densely populated parts of European Russia. The average size of the farms varies from 3.5 to 4 deciatines. In the provinces of the Far East it is larger (6.2 deciatines).

In spite of the great area of splendid pasturage lying along the banks of the Amur River and of its tributaries, stock breeding has not only not developed here, but is far less prevalent than in western Siberia. The average number of live stock per farm in the Far East is slightly more than half what it is in western Siberia, 9.5 as against 17.2.

Thus we see that these two border regions of Russia possess large natural resources, but they are as yet virgin territory. Neither the labor nor the enterprise of man has touched them. Taking into con-

sideration the thinly populated country, we cannot, of course, expect a high degree of cultivation or intensive farming. But even the small oases amidst this vast expanse were very inadequately and carelessly tilled, so that occasionally the Cossacks of the Amur were obliged to buy grain outside their territory.

CHAPTER II

PROGRESS OF AGRICULTURE IN THE YEARS PRECEDING THE WAR

Predominance of Agriculture.

NOTWITHSTANDING the intense development of the metallurgical and coal industries, and of factories and mills, Russia still remained, up to the beginning of the World War, principally an agricultural country. Agriculture, and the industries connected with it, determined the bent of Russia's economic life, and also the part it was destined to play in the international economic system. About the time when the War began, 70 per cent of the whole population derived their living from agriculture; in some parts of Russia even 90 per cent; 85 per cent of the total population was rural. The value of the yearly produce of agriculture was nearly twice as great as that of industry. Two-thirds of the work in Russian factories and mills was devoted to the further treatment of agricultural products, and agricultural raw materials contributed no less than 40 per cent of the total value of the output of Russian industry. Nearly one-half of the home trade and more than five-sixths of the export trade consisted in the produce of agriculture.

The immense territory of Russia which, as has been shown in Chapter I, covered an area of over 19 million square versts, was inhabited toward the beginning of 1914 by the following population.[1]

[1] These data are taken from *Sboruik statistiko-ckouomicheskikh svedeui po selskomu khozyaistvu Rossii i uekotorikh inostranuikh strau* (*Statistics of the Agriculture of Russia aud of Some Foreigu Couutries*), Vols. I–X, covering the years 1906 to 1915, Petrograd, 1907–1917.

POPULATION

Part of the Empire	*Total*	*Urban* (*in millions*)	*Rural*	*Percentage of rural population*	*Population per square verst* *Total*	*Rural* (*in millions*)
European Russia (50 provinces)	130.7	19.4	111.4	85.2	30.9	26.3
Poland	13.3	3.1	10.1	76.7	119.2	90.5
Caucasus	13.3	2.0	11.3	85.0	32.1	27.3
Siberia	10.4	1.3	9.1	87.5	0.9	0.8
Central Asiatic Possessions	11.2	1.6	9.6	85.6	3.6	3.1
Total for Russia (Finland excluded)	178.9	27.4	151.5	84.7	9.5	8.0

Of the fifty provinces of European Russia those possessing the densest rural population are the important agricultural regions—the Southwest, Little Russia, and the Central Agricultural; whereas the immense and very fertile territory of the Lower Volga was but thinly populated, and the vast Northern region was scarcely more inhabited than Siberia.

Poland, which before the War formed part of Russia, was, on the contrary, densely occupied by a rural population. In the Caucasus, the density of the population was approximately similar to that of the fifty Russian provinces.

In Asia we find the vast thinly populated expanses of Siberia and the Central Asiatic possessions. But colonization, which had become more rapid just before the War, was beginning to transform Siberia into the greatest agricultural territory in the world, while irrigation projects in the central Asiatic possessions were about to open new regions to the cultivation of cotton and other subtropical plants.

Classification of Land.

General statistics regarding the distribution and classification of land were given in Chapter I. Very significant, too, are the figures of the distribution of arable land, meadows, and forests or the land belonging to the peasants and to owners of large estates.

The following data are given by M. Kaufman:[2]

[2] A. Kaufman, *Voprosi ekonomiki i statistiki krestyanskago khozyaistva* (*Some Problems of Economics and Statistics Relating to Peasant Farming*), Moscow, 1918, p. 59.

LAND HELD BY PEASANTS AND OTHER OWNERS

Categories of land	*Peasant land*	*Land held by owners other than peasants*
	(*percentage*)	
Arable land	53	27
Meadows and pastures	23	22
Forests	10	38
Land unsuited for cultivation	9	12
Unknown	5	1
Total	100	100

The high percentage of forests on the non-peasant estates reduces the percentage of arable land. This proves that on these estates land was less fully utilized than that of the peasants. To some extent it was the result of the difference in the conditions governing peasant and non-peasant farming. On this point Kaufman remarks:

> As a rule we look upon a high percentage of arable land in a given estate as evidence of the intensiveness of farming. This, however, is a superficial view. No one, of course, considers the standard of English agriculture to be lower either than that of other western European countries or of Russia. And yet the proportion of meadows and pastures in England is 60 per cent. No one thinks that the agricultural standard of such provinces as Kherson, Ekaterinoslav, Kharkov in the south and still more of Samara and Orenburg in the east is higher than that of the Baltic provinces.[3]

Yet in the Southern region arable land constitutes 68.6 per cent of the total area; in the Baltic provinces 23.8 per cent.

The area under cultivation in 1912 was distributed as follows:

AREA UNDER CULTIVATION

Part of the Empire	*Cereals, potatoes, flax, hemp*	*Sugar beet*	*Sunflower*	*Cotton*	*Rice*
	(*in thousands of deciatines*)				
European Russia (50 provinces)	76,238	622	499	...	...
Poland	5,201	76	...	...	...
Caucasus	8,321	...	271	89	23
Western Siberia	5,076	...	...	...	...
Eastern Siberia	917	...	1	...	...
Steppe region	2,654	...	10	...	5
Turkestan	1,722	2	...	402	156
Total	100,129	700	781	491	184

[3] *Ibid.*, pp. 60–61.

By far the greatest part of the cultivated area (97.8 per cent) was under cereals, potatoes, flax, and hemp. All the other industrial plants together covered only 2.2 per cent.

Changes in the Area under Crops.

The changes that took place in the extent of the cultivated area in the several regions of the Empire may be seen from the following table:[4]

AVERAGE ANNUAL AREA UNDER CEREALS, POTATOES, FLAX, AND HEMP

Part of the Empire	*Annual average for 1901–1905*	*Annual average for 1906–1910*	*Annual average for 1911–1914*	*Increase from 1901–1905 to 1911–1914*	
	(in millions of deciatines)				*(percentage)*
European Russia (50 provinces)	73.7	75.2	77.7	4.0	5.4
Poland	5.0	5.1	5.2	0.2	4.0
Cis-Caucasia	4.7	5.6	6.7	2.0	42.5
Trans-Caucasia	1.9	1.9	2.0	0.1	5.3
Siberia (4 provinces)	3.5	4.2	5.7	2.2	62.9
Steppe region	1.3	1.8	3.1	1.8	138.4
Turkestan	1.4[5]	1.4	2.0	0.6	42.9
Total	91.5	95.2	102.4	10.9	11.9

These figures show that during the nine or ten years preceding the War the area of crops was steadily increasing and that the average yearly increase was more than one million deciatines, that is, over 1 per cent.

By far the larger portion of the area under crops was comprised in the fifty provinces of European Russia. But its increase in these provinces was one-half the increase in the rest of the Empire. The increase in Poland was even smaller, for here agriculture was of long standing and most of the soil had been tilled for many generations. The same may be said of Trans-Caucasia. In Cis-Caucasia,

[4] Official data of the Central Statistical Committee, published in *Urozhai* (*The Crops*) for the respective years.

[5] Data for 1901–1905 are not available and those of 1906–1910 are used instead.

which had been but recently colonized, on the contrary, the area under cultivation increased ten times as rapidly as in the fifty provinces of European Russia. The same applies to Turkestan. In Siberia this expansion went on at the still faster rate of 6 per cent a year. The annual increase of cultivated area reached its maximum in the steppes of Central Asia, where it has been estimated at 14 per cent. This rapid extension in Siberia and Central Asia was the consequence of colonization. Every year, up to the declaration of war, a mighty stream of settlers poured toward these countries from European Russia. This process of colonization, far from being complete, was only beginning.

In the cultivated area cereals formed 90 per cent of the total. Less than 5 per cent of the soil was under potatoes, while flax and hemp occupied no more than 2 per cent of the total area. In 1913 the first place among crops was held by wheat (30.6 million deciatines or 31.2 per cent), and that, owing to climatic conditions. The second place was held by rye (28.1 million deciatines or 28.7 per cent), almost exclusively winter rye. Extensive crops of rye are still characteristic of Russian agriculture. This grain was chiefly produced for the consumption of the rural and to some extent of the city population. Rye bread is the main food of the Russian people. Wheat, on the contrary, was grown for sale and especially for export. It was the most important commercial cereal. Oats took the third place (18.1 million deciatines or 18.4 per cent). Next came barley (12.5 million deciatines or 12.7 per cent), a considerable part of which was also destined for export. Maize was grown on less than 2 per cent of the cultivated land. This insignificant proportion is also a typical feature of Russian agriculture, in which it differs from that of the United States. Even in southern Russia, where climatic conditions are favorable to its growth, maize began to be more widely planted only in quite recent times, and up to the beginning of the War its quantity was negligible. For instance, in the province of Ekaterinoslav, the climate of which is similar to that of South Dakota, only 2 per cent of the cultivated fields were under maize, whereas in South Dakota this cereal occupied 23.1 per cent. It is, however, a particularly important plant for Russia, as its cultivation helps to exterminate troublesome weeds. According to M. Shevelev one deciatine contains 375 million noxious seeds, whereas the number of grains sown, for instance, of barley, in the

same area is only about 3,000,000. Furthermore, maize is a very good cereal for dry climates, as its cultivation does not take away as much moisture from the soil as other crops.[6]

Crops on Peasant and Non-Peasant Farms.

The general distribution of the crops according to ownership of the land, that is, according as it belonged to peasants or other owners, is known to us only for the year 1916. The first agricultural census took place in that year, which was the third year of the War. The situation then was not the same as it would have been during peace-time, as some changes had occurred in the demand for cereals. This census gives the following figures for European Russia.[7]

On every 100 deciatines of cultivated land owned by the peasants and other landowners respectively, the following cereals and other crops were grown:

AREA UNDER SEPARATE CROPS ON PEASANT AND NON-PEASANT FARMS PER HUNDRED DECIATINES

Crops	*Peasant holdings*	*Other owners (in deciatines)*	*Difference plus or minus*
Rye	30.0	19.0	11.0
Wheat	22.0	26.0	—4.0
Barley	12.0	11.0	1.0
Oats	18.0	20.0	—2.0
Millet	3.1	2.5	0.6
Buckwheat	2.7	1.2	1.5
Flax	2.0	0.5	1.5
Potatoes	3.4	2.4	1.0
Sugar beet	0.1	5.1	—5.0
Grass	1.9	9.0	—7.1
Miscellaneous	4.8	3.3	1.5

The peasants sowed chiefly rye, buckwheat, and flax; other owners, chiefly wheat, grass, and sugar beet. This difference shows

[6] V. V. Talanov, *Kukuruza i eya znachenie dlya Rossii* (*Maize and Its Importance for Russia*) in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture, for 1910.

[7] A. Kaufman, *op. cit.*, p. 215.

that the former farmed principally with a view to direct consumption, the latter with a view to sale.

During the years preceding the War the area under rye remained stationary, that under buckwheat and millet was even somewhat reduced. On the other hand, a great increase was observed in the cultivation of barley, wheat, maize, and potatoes. This shows that Russian agriculture was gradually undergoing a process of transformation. Instead of employing great areas to provide for the consumption of the population (rye), it was increasing the acreage under the cereals for which there was a trade demand (wheat and barley).

These last two cereals were especially widely grown in the recently colonized Southern region. The increase of the area under potatoes indicates that more and more farms were abandoning the traditional three-course[8] rotation and changing to a four-course rotation, in which the winter cereals would be followed by fallow; or even to a rotation of six or more courses, in which both potatoes and sown grasses (clover, alfalfa, and others) were cultivated. Potatoes occupied a particularly prominent place in the agriculture of the western regions, in the vicinity of Poland, where most of the soil was sandy; and the distillation of spirits was a prevalent industry.

During the years immediately preceding the War the crops of cereals, potatoes, flaxseed, and hempseed on the above-mentioned areas were as follows:[9]

[8] The most widespread form of husbandry in Russia: the first year the land is sown in autumn with a winter cereal; the second year it is sown in spring with a summer cereal or root; the third year a bare fallow is taken and the land rests; after which the same process begins over again. In the four-course rotation the same cereal is sown on the same land only after four years; in longer rotations, even less often.

[9] See *Urozhai* (*The Crops*) for the respective years. A certain margin must be allowed for the inaccuracy of the statistical data. It is exceedingly difficult to get strictly accurate figures regarding the crops. Professor Frank Zizek writes: "Wie unendlich schwer ist die adäquate Erfassung, die uberdies viel zu spät kame. Daher uberwiegen Surrogate." (*Grundriss der Statistik*, Munchen und Leipzig, 1921, p. 290.) The vast expanse of Russia, the great variety of agricultural conditions, and the low general standard of the population, rendered it very much more difficult to collect data regarding the harvests.

YIELD OF CROPS

	Cereals	*Potatoes*	*Flaxseed*	*Hempseed*	*Total*
			(*in millions of puds*)		
1910	4,825.5	2,231.8	31.3	26.8	7,115.4
1911	3,877.6	1,954.0	34.7	22.3	5,888.6
1912	5,072.1	2,338.8	38.0	25.3	7,474.2
1913	5,636.6	2,191.3	41.9	26.8	7,896.6

Before the War the total weight of these various crops had reached the enormous figure of about 8,000 million puds, cereals alone amounting to over 5,500 million puds. The above does not include many other products of Russian agriculture, of which we shall speak below.

In 1910 to 1912, the yearly average value of agricultural produce was estimated as follows:[10]

YEARLY AVERAGE VALUE OF CROPS IN 1910 TO 1912

	Millions of rubles	*Percentage*
Cereals	4,010	79.2
Potatoes	501	9.9
Oil-plants	324	6.4
Sugar beet	81	1.6
Tobacco	25	0.5
Miscellaneous	122	2.4
Total	5,063	100.0

The cereals, of course, were the most valuable crop. But potatoes, oleaginous plants, and sugar beet were also becoming substantial assets. Geographically, the total sum represented by all these crops was distributed in the following manner:

[10] *Selskokhozyaistvenni promisel v Rossii* (*Russian Agriculture*), published by the Ministry of Agriculture, Petrograd, 1914, p. 130.

VALUE OF CROPS IN VARIOUS AREAS

(in millions of rubles)

European Russia (50 provinces):		
Black-soil zone	2,502	
Less fertile zone	1,135	
Total		3,637
Poland		484
Caucasus		428
Siberia:		
West Siberia	169	
East Siberia	45	
Total		214
Central Asiatic Possessions		300
Total for the whole of Russia		5,063

If we estimate the crops of cereals, potatoes, flaxseed, and hempseed, not for the whole of Russia, but only for those territories regarding which we possess continuous data from 1901 to 1913, we arrive at the following figures:

AVERAGE ANNUAL CROPS

	Cereals	*Potatoes*	*Flax and hemp seeds*
		(in millions of puds)	
1901–1905	4,024.1	1,596.9	57.9
1906–1910	4,181.8	1,871.0	57.0
1911–1913	4,803.0	2,810.8	62.6
Increase from 1901–1905 to 1911–1913	778.9	583.9	4.7
Percentage of increase	19.5	36.6	8.1

Notwithstanding the failure of the harvest in 1911, the total weight of agricultural produce increased by 24 per cent from 1901–1905 to 1911–1913. This was not so much due to the extension of the cultivated area as to the improvement of the soil. The increase in the crops was twice that of the area under cultivation. The potato crop developed in a marked degree.

Comparing the figures of the changes in the area under cultivation and of the increase of crops, we come to the conclusion that in Asiatic Russia the increase of crops was the result of the exten-

sion of the area cultivated. On the contrary, in the fifty provinces of European Russia, and especially in Poland, it was due to a better yield. This is characteristic of the evolution taking place in Russian agriculture just before the War. In the original provinces of Russia, which were more densely populated, and where a greater proportion of the land was cultivated, progress could be achieved only by adopting more intensive methods of agriculture. In districts of more recent colonization the tendency always was to extend the area cultivated, rather than to adopt improved methods.

Changes in the Yield of Crops.

We shall now investigate the yield of grain per unit of area. A poor yield was the weak point of Russian farming, and the very slow increase in the return of the soil during the nineteenth century, so disproportionate to the rapid increase of the population, was the chief cause of the depression in peasant farming that we witnessed toward the end of the last century. The following table shows the increase in the yield of grain per deciatine in the fifty provinces of European Russia, both on the peasant holdings and on other lands, from the time of the abolition of serfdom.

AVERAGE ANNUAL YIELD OF CEREALS

	Peasant holdings		*Other lands*	
	(in puds)	*(percentage)*	*(in puds)*	*(percentage)*
1861–1870	29	100	33	100
1871–1880	31	107	37	112
1881–1890	34	117	42	127
1891–1900	39	134	47	142
1901–1910	43	148	54	164

We see that the yield of cereals was in general very low, especially on peasant land, also that the improvement was very slow. Still the above figures indicate not only that some improvement was being made, but also that this improvement was becoming more pronounced.

It was more rapid on the non-peasant farms than on peasant land. In 1861–1870 the yield on the former was 14 per cent higher than that on the latter. In 1901–1910 the difference had reached 27 per cent. This superiority was due partly to the improved quality of the land and partly to the possession of more convenient

pastures and meadows; and also to more profitable crops introduced by the non-peasant farmers; it was also due, in a measure, to technical improvements. We should remember that we have to distinguish land simply owned by non-peasant owners and that actually farmed by them; so that in speaking of crops we must differentiate between these two categories. Much of the large estates was leased to peasants. Generally speaking this was done on short one-year leases; such leases tended to lower the standard of cultivation. Besides, a number of the large estates were totally, or in part, cultivated by the peasants, mostly with their own implements, machinery, and live stock. All this tended to lower the average yield on the large estates. M. Kaufman, a leading statistician, writes:

> If it were possible to estimate the average yield only on estates (or parts of estates) actually farmed by non-peasant owners, the difference would be, of course, not 15 to 20 per cent, but much more. And there can be no doubt that the whole, or nearly the whole, of this difference must be put down to the more efficient methods adopted on large estates.[11]

The problem of shortage of land, which was so prominent a feature of Russian political life, was attributable solely to the inferior technical methods applied in peasant farming, which of course resulted in poor crops. No actual shortage of land ever existed. The feeling of congestion was purely the result of technical inferiority.

The poor harvests obtained from Russian land were certainly not due to a lack of fertile soils. This is proved by the fact that even as late as the end of the nineteenth century the crops in the black-soil zone were lower than where there was no black soil. Only toward the beginning of the twentieth century had the yield in the former attained the same standard as in the latter, because they had progressed at a more rapid pace. If we compare the two periods 1861–1870 and 1901–1910, we see the crops of the black-soil zone showing an improvement of 60.5 per cent; those of the less fertile zone of only 39 per cent. The greatest improvement was seen in the following black-soil regions: Little Russia, Southwestern, Southern, and Middle Volga.[12]

[11] A. Kaufman, *op. cit.*, p. 258.

[12] See V. V. Morachevsky, *Uspekhi krestyanskavo khozyaistva v Rossii* (*Progress of Peasant Farming in Russia*) in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture, for 1910; also S. S. Bekhteev, *Khozyaistvennie*

In the extensive Central Agricultural black-soil region, on the contrary, the harvests remained nearly stationary, while the rural population, which was already rather dense, continued to increase. The depression of Russian peasant farming above referred to manifested itself most acutely in this region. It was principally due to communal landownership and to certain other conditions of Russian peasant life. From the beginning of the twentieth century the Government had been trying to cope with the situation and with special activity since the revolutionary movement of 1905. A number of land reforms and other measures were started. It had not, however, been possible to complete all these reforms before the War. This fact, together with the War and the general political condition, contributed to bring about the ensuing upheaval.

Let us now consider the changes that took place in the annual yield of separate cereals during the last decade before the War. We give below the increase for the five principal cereals in the fifty provinces of European Russia, and in Poland, from 1901–1905 to 1911–1913.[13]

AVERAGE ANNUAL YIELD PER DECIATINE OF THE FIVE PRINCIPAL CEREALS

	Peasant land			*Land of other owners*		
	1901–1905	*1911–1913*	*Percentage of increase*	*1901–1905*	*1911–1913*	*Percentage of increase*
	(puds per deciatine)			*(puds per deciatine)*		
Black-soil zone	52	56	7.7	61	64	5.0
Less fertile zone	50	58	16.0	57	64	12.3
Average for European Russia (50 provinces)	51	57	10.8	59	64	8.5
Poland	56	75	34.0	62	82	32.3

In the course of nine years the yearly yield of cereals had increased by 10 per cent in the fifty provinces of European Russia, and by more than 30 per cent in Poland. It is to be noted that during the period under consideration, the yield increased considerably more in the less fertile provinces than in the black-soil provinces.

itogi istekshavo sorokapyatiletya i meri k khozyaistvennomu podemu (Economic Achievements of the Last Forty-Five Years and the Measures for the Development of the Country), Vols. I–III, 1906–1911.

[13] Data of the publication *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

This shows that during recent years farming outside the black-soil zone was becoming more intensive. Another interesting feature of these recent pre-war years was a more rapid increase in the productivity of peasant land. This clearly shows that before the War it was precisely in peasant farming that an awakening had come.

Besides the low average yield of crops, another great defect of Russian agriculture was the sharp fluctuations in the yield from year to year in various parts of the country. These fluctuations were partly the result of climatic differences. The dry eastern and southern regions were subject to greater fluctuations than those of the damp west.

During the period 1895–1912 the fluctuations in the yearly yield of crops on peasant land were as follows: Lower Volga, 28 per cent, Middle Volga, 24 per cent, Southern, 21 per cent, Lake region, 12 per cent, Lithuania, 10 per cent, Baltic provinces, 9 per cent, and Northern region, 7 per cent. These wide fluctuations were due not only to climatic conditions, but also to primitive methods of farming.

We shall be able to judge how variable in any year Russian yield per deciatine was as compared with those of other countries. In England, for example, the ratio between the lowest and the highest yield was 100 to 131; in the United States, 100 to 153; while in Russia it was 100 to 336 and 365 for spring and winter wheat respectively.

In Russia the yield on non-peasant farms was more uniform. The difference between the lowest and the highest yield for all cereals was as 100 to 153 on the latter, and as 100 to 228 on peasant land. In years when the crops failed, this made the difference between the harvests on the two classes of land most apparent.

Export of Cereals.

The extension of the cultivated areas and the improved productivity were accompanied by a corresponding increase in the export of cereals. This increase was rather rapid even in the nineteenth century. In 1861–1870 the average annual amount of 110 million puds of cereals was exported. In 1891–1900 the figure was 442 million puds. In the twentieth century we find the following figures of export: for 1901–1905, an average annual amount of 571 million puds; for 1906–1908, 450 million puds. This drop is due to the

agrarian troubles of 1906–1907; but the following years show a marked increase, reaching the average of 672 million puds in 1909–1913.

As regards the different kinds of cereals we arrive at the following figures: As between 1901–1905 and 1909–1913 the export of rye and oats decreased. The export of wheat, on the contrary, increased to as much as 259 million puds, and the export of barley to 227 million puds. This increased export was even somewhat disadvantageous to the home consumer. The main bulk of the cereals for export and also of the cereals for home consumption was produced by the big landowners. According to statistics collected by M. Mares for the end of the nineteenth century, only one-sixth of the well-to-do farmers placed their grain on the market. The rest of the peasants either sold none at all or sold some of it only in the autumn to pay taxes and rent, or to meet other immediate requirements; but in winter or spring these same peasants would have to buy grain with money earned or borrowed for that purpose. Such forced sales of grain lowered prices in autumn; in spring, on the contrary, prices would undergo an artificial rise. This was prejudicial to the rural population, as it diminished their share in the profits of export and raised the cost of living for those who first sold cheaply and then bought dearly.

Meadows.

Meadows formed an important element in agriculture, producing fodder for the live stock. The total area of meadows in 1913[14] was 36 million deciatines, or slightly more than one-third of the arable area. From 1901–1905 to 1913 the extent of meadows in European Russia was reduced from 25.5 to 22.3 million deciatines, as a portion of the grass land had been plowed up.

In Siberia and in the steppes of Central Asia, on the contrary, the area of meadows was steadily increasing. These territories were still living under primitive conditions characterized by the transformation into meadows of forests and uncultivated lands.

But though the area of meadows in European Russia was reduced, the production of hay increased. In 1913 it attained 3,386.2 million puds, or 91 puds per deciatine. This must be ascribed to

[14] Data of the publication *Statistics of Agriculture of Russia and of Some Foreign Countries.*

better yield. The average annual yield of hay per deciatine in the fifty provinces of European Russia was 82 puds in 1901–1905, 83 puds in 1906–1910; and increased to 98 puds in 1913.

In Asiatic Russia, on the contrary, there was a decline in the yield of hay per deciatine. This must be ascribed to the fact that land of inferior quality was being turned into meadows.

Progress of Agriculture.

All the information given above leads us to the conclusion that during the last decade before the War Russian agriculture showed decided progress. The yield of the land was improving, farming was gradually passing from the traditional three-course rotation to more intensive systems; potatoes and other roots were introduced; the area of rotation grasses was increasing, better seed grain was coming into use. More land was manured; artificial fertilizers were no longer uncommon. Better implements and machinery were more generally employed. Lastly, the cultivation of plants required for industrial purposes was extending, and new branches of agriculture developing. And it was a particularly encouraging symptom that this progress manifested itself not only on the large and better managed estates, but on an ever increasing number of peasant farms. No doubt, notwithstanding this general tendency toward progress, it happened that certain types of peasant households or even the total peasant population of certain districts passed through a period of extreme depression; in many places it was inevitable that the constant reduction in the size of peasant holdings should cause a backward tendency in agriculture.

The general agricultural progress of the country is shown by the following instances.[15] The introduction of rotation grasses, such as clover, was important, as it entailed the plowing up of meadows and pastures. It made good the shortage of fodder, a defect developed by Russian agriculture in the last quarter of the nineteenth century. Fodder, live stock, manuring, a good yield, are so many links of the progression toward satisfactory farming. The extension of the area under sown grass opened the way out of the difficulty. The following figures relate to the fifty provinces of European Russia. From 1888 to 1901 the area under rotation grass on

[15] See V. V. Morachevsky, *op. cit.;* also *Selskokhozyaistvenni promisel v Rossii* (*Agriculture in Russia*), Petrograd, 1914.

peasant farms increased from 50,000 deciatines to 355,000 deciatines or by 607 per cent; on large estates, from 522,000 to 730,000 deciatines, or by 40 per cent, giving an average increase of 90 per cent for both peasant farms and large estates.

In 1881 the peasants sowed scarcely any grasses at all. But about the beginning of the twentieth century the area of peasant land under grass had already attained one-half of that under grass on large estates. In 1901 only 1.5 per cent of the total area of arable land was sown with temporary grass. But during the next two decades we witness a new advance, especially in the provinces situated around Moscow. In the western provinces and in the north, the practice of sowing grasses had existed for a long time and was rapidly increasing. The large estates generally were the first to lead in this matter. Next to follow were the wealthier peasants.

Seed Grain.

Improvement of seed grain was to be met with both on large estates and on peasant farms. The latter suffered most from impurities in their seed. This made it very important, especially for peasant farmers, that a network of agricultural stations should be established for the sorting and cleaning of seed; also that winnowing and screening machinery should be more generally used; and that seed grain of superior quality should be obtainable. We can form an idea of the importance of these measures, for example, from the fact that in the province of Vladimir the spring seed grain contained from 40 to 60 per cent of weed seeds. During recent years the peasants have been very eager to buy seed grain of superior quality.

The sale of such seed was rapidly increasing. The large estates gave the lead; they introduced a new type of farming specially devoted to the improvement of seed by selection. From these farms, as well as from the zemstvo stores, the peasant could buy the best kinds of seed.

Fertilizers.

On most farms the land was insufficiently manured. In nearly all cases farmyard manure was the only kind of fertilizer applied, and the use of even this was far from universal. The use of farmyard manure gradually decreased from northwest to southeast; even in

the districts where it had been habitual there was a gradual decline, because the number of live stock per deciatine had been reduced. When farming reaches this stage of development, it becomes imperative to employ artificial fertilizers. Before the War, Russia had scarcely begun to adopt them on anything like an extensive scale. In 1907 only 13 million puds of different mineral fertilizers were used in Russia on an area of about 100 million deciatines, whereas in Germany 167 million puds were used on about 15 or 16 million deciatines. Yet the enormous importance of manuring had been conclusively demonstrated by experimental and model farms. Only from the beginning of the twentieth century did the use of mineral fertilizers assume greater proportions.[16] The figures regarding their import are interesting. In 1900 Russia imported 6,000,000 puds of mineral fertilizers; in 1905, 7,300,000 puds; in 1913, 34,300,000 puds.

Agricultural Machinery.

Russian farms were receiving an ever increasing stream of improved implements and machinery, mostly of American and German make. The home production of these also developed. Both cottage and factory industry were rapidly growing. In 1895 the value of their produce was 9.6 million rubles; in 1913 it had risen to 60.5 million rubles.[17] In 1908 there existed in Russia 338 works producing agricultural machinery and implements.[18] In 1912 there were 826. During the same period the number of plows manufactured had increased from 349,500 to 652,200; the increase in the production of other implements and machinery was still more rapid. The brisk trade in machinery and implements, carried on by the zemstvo stores proved that the machine had made its way into the peasant homestead. It increased from 5 million rubles in 1901 to 13.9 million rubles in 1912.

[16] See P. P. Markovich, *Rasprostranenie i primenenie mineralnikh udobreni v Rossii* (*The Use of Mineral Fertilizers in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

[17] Data of the Bureau of Agricultural Machinery of the Department of Agriculture.

[18] See L. B. Kafenhous, *Razvitie russkago selskokhozyaistvennavo mashinostroenya* (*Production of Agricultural Machinery in Russia*), Kharkov, 1910.

Flour Mills and Elevators.

The increased production of grain called for increased activity on the part of the Russian flour mills.[19] However, up to quite recent times the Russian milling industry was producing almost exclusively for the home market, and flour formed only an insignificant item in exports. Bran alone was exported in large quantities: this may be explained by the high prices paid for it in other countries. We must admit that this considerable export of bran was decidedly harmful to the stock-breeding industry.

Another clear sign of progress was the increasing number of elevators and other granaries. The very first elevator in Russia was built in 1885 in Eletz, province of Orel, but by 1910 there existed a whole network of grain stores: 47 elevators with a capacity of 18.7 million puds and 229 granaries of other kinds capable of containing 28.3 million puds, besides 2,944 grain stores attached to railway stations. These could contain as much as 117.7 million puds. Moreover, the thirteen principal seaports possessed elevators, warehouses, and stores with a capacity of 150 million puds.[20] Of course Russia still remained far behind the United States in this respect, but it was just during the last few years that she made the greatest progress. Unfortunately, however, all these stores, with the exception of the elevators and certain other types of granaries, did not possess the necessary machinery for cleaning the grain. This is why Russian grain exported to foreign markets was noted for a high percentage of impurities, which greatly lowered its value. During the last years, when many export firms of low standard had abandoned the best commercial traditions, this percentage of impurities had even increased.

According to a report furnished by M. Vlastelitsa[21] the percentage of impurities in the grain shipped from Nikolaev increased as follows:

[19] See P. J. Lyashchenko, *Russkaya mukomolnaya promishlennost i torgovlya mukoi* (*Russian Flour Mills and Flour Trade*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1911.

[20] See S. S. Bekhteev, *op. cit.*, III (1911), 252–253, 312.

[21] See *ibid.*, p. 144.

PERCENTAGE OF IMPURITIES

Period	*Percentage of impurities*
1903	2.49
1914, January–June	3.14
July–December	5.10
1907, January–June	5.93
July–December	6.56
1908, January–June	8.38

The percentage of impurities was often artificially increased by dishonest traders. Truckloads of spurious grain used to be brought to the seaport of Nikolaev for the special purpose of being mixed with good grain prepared for export. In 1904 31 truckloads of spurious graining were sent for this purpose, in 1905—36, in 1906—178, in 1907—213. Russian farmers suffered severely from all these abuses.

Flax and Hemp.

The progress of Russian agriculture is, perhaps, most clearly indicated by the development that took place in the cultivation of plants needed for industrial purposes. Farming was becoming more intensive: a greater variety of crops replaced the former monotonous growing of grain.

In the first place, Russia began to satisfy her own demand for vegetable fiber, especially as regards cotton. The cultivation of flax and hemp was already of long standing in Russia. The area under hemp had even been somewhat reduced in recent years.

The area under flax and the yield of flax fiber in the twenty-seven provinces in which this plant was cultivated underwent the following changes:

AREA UNDER FLAX AND YIELD OF FLAX FIBER

Annual average for the period	*Area under flax (in thousands of deciatines)*	*Total yield (in millions of puds)*	*Yield per deciatine (in puds)*
1901–1905	1,018	19.4	19.1
1906–1910	1,008	29.0	28.8
1911–1913	1,055	29.4	27.1

The improvement in the yield shows that Russian flax growing (even on peasant land) was recovering from the bad effects that a

too frequent cropping of flax has on the fertility of the soil in some parts of Russia. The increasing yield of flax fiber was accompanied by an increase in the quantity exported. Nearly two-thirds of the fiber harvested was exported. But here again the unsatisfactory manipulation of the fiber depreciated its value.

The area under hemp and the yield of hemp showed the following changes:

AREA UNDER HEMP AND THE YIELD OF HEMP

Annual average for the period	*Area under hemp (in thousands of deciatines)*	*Total yield (in millions of puds)*	*Yield per deciatine (in puds)*
1901–1905	750	19.5	26.0
1906–1910	687	25.1	36.5
1911–1913	623	22.5	35.7

The area under hemp had been greatly reduced. Rye was the cereal and hemp the fiber plant that were beginning to occupy a secondary position. But the reduction of the area cultivated had been compensated by the improvement in the yield. Another feature in respect of which hemp resembles rye is that, as compared with flax, only a small proportion of the fiber was exported. In 1913–1914 only one million puds of hemp were exported, so that while flax must be looked upon as a trade and export plant, hemp, on the contrary, was destined for home consumption. However, the greatest progress is to be noted in the cultivation of cotton.

Cotton.[22]

The cotton plant is grown in Russia in Trans-Caucasia, but chiefly in the south of Turkestan, in Khiva and Bokhara. The construction of the Trans-Siberian railway (1888–1900) greatly assisted the development of this cultivation. It considerably lowered the cost of transport of cotton, and gave facilities for the import of cereals into Turkestan; thus making it possible to increase the cotton plantations by reducing the area under cereals. The ever in-

[22] See A. J. Knize, *Khlopkovodstvo* (*Cotton Growing*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; also *Statistics of Agriculture of Russia and of Some Foreign Countries;* also John A. Todd, *The World's Cotton Crops,* London, 1924, pp. 64–77.

creasing demand for cotton in Russia also encouraged its greater production. In 1890 the Russian cotton mills used 8 million puds of cotton; of this quantity 6 million were imported. Before the War the consumption fluctuated between 18 and 20 millions of puds; of this, 10 or 11 million were imported, including 7 millions from America. This increase of demand, by encouraging the spread of cotton growing at home, reduced the value of cotton imported from 108.4 million rubles in 1904 to 100.1 million rubles in 1913.

The home cultivation of cotton was also stimulated by the higher import duties imposed in 1900 (4.15 rubles per pud). Lastly, the irrigation works which had been carried out had a marked influence on the development of this industry.

AVERAGE ANNUAL AREA UNDER COTTON AND ITS YIELD

Area	*Area under cotton* 1902–1906 (*in thousands of deciatines*)	1909–1913	*Increase in percentage*	*Total yield* 1902–1906 (*in millions of puds*)	1909–1913	*Increase in percentage*	*Yield per deciatine* 1902–1906 (*in puds*)	1909–1913
Trans-Caucasia	38.8	66.4	71	2.2	2.4	9	56	36
Turkestan	213.1	362.3	70	14.2	21.6	52	67	60
Total	251.9	428.7	70	16.4	24.0	46	65	56

Besides this there were about 150,000 deciatines in Khiva and Bokhara which yield over 6 million puds of unginned and 2 million puds of ginned cotton. The total amount of ginned cotton attained 10 million puds before the War, which was about one-half the quantity required for home consumption.[23]

Besides fiber, the cotton plant produces valuable seeds, the yield of which in Russia was about two-thirds of that of the fiber; its total yield was about 16 million puds. The seeds give about 15 per cent of oil and 35 per cent of oil cake. These were exported to Germany and England; an undesirable practice, as they might very profitably have been used locally as cattle food.

Flax and hemp, like cotton, were grown for their fiber. But they also produced a considerable amount of oilseeds.

[23] Todd gives the following figures of the cotton produced in Russia (Khiva and Bokhara included): for 1902–1903, 342,000 bales of 500 lbs., and for 1913–1914, 1,015 bales. These figures are drawn from different sources.

Sunflower and Rape.

The sunflower was grown exclusively for its seeds. Its cultivation made rapid progress and attained the following dimensions in the years preceding the War.

AREA UNDER SUNFLOWER AND ITS YIELD

Area	*Area under sunflower* 1912 (*in deciatines*)	1913	*Total yield* 1912 (*in millions of puds*)	1913	*Yield per deciatine* 1912 (*in puds*)	1913
50 provinces of European Russia	499,600	531,000	25.3	28.0	51	53
Cis-Caucasia	270,700	281,600	18.7	13.8	68	49
Asiatic Russia	10,900	14,900	0.4	0.4	34	28
Total	781,200	827,500	44.4	42.2	57	51

Oil was also obtained in a limited quantity from rape. In 1913, 49,700 deciatines were under this crop, which gave 3.4 million puds of seeds.

Sugar Beet.

An important crop which was increasing yearly was that of sugar beet. It is not only very profitable but it gave rise to a prominent industry, which played a vital part in the economy of the country. Farming tended to grow more intensive in districts where this crop had been introduced. It moreover gave employment to five to seven times as many hands as the cultivation of grain. Further, the stalks, leaves, and other residues of the beet, provided excellent fodder for live stock, so that the fattening of cattle and pigs became an additional industry, springing up near sugar works, on the beet plantations, and even on the peasant farms. The area under sugar beet and the yield increased as shown in the following table during the last years before the War:[24]

[24] *Statistics of Agriculture of Russia and of Some Foreign Countries;* M. Tsekhanovsky, *Russkāya sveklosakharnaya promishlennost v eya proshlom i nastoyashchem* (*Russian Sugar-beet Industry, Its Past and Present*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1910; S. A. Frankfurt, *Russkaya sakharnaya promishlennost i meri k eya razvityu* (*Russian Sugar Industry and Measures for Its Development*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1913.

AREA UNDER SUGAR BEET AND ITS YIELD

Annual average for the period	*Belonging to refineries*	*Farmers' land (in deciatines)*	*Total*	*Total yield (in millions of puds)*	*Yield per deciatine (in puds)*
1901–1905	165,700	340,700	506,400	422	833
1906–1910	177,100	373,900	551,000	583	1,058
1911–1913	216,500	482,000	698,500	745	1,067
Increase from 1901–1905 to 1911–1913	50,800	141,300	192,100	323	234
Percentage of increase	31	41	38	77	28

At the time of the outbreak of War the total area under sugar beet had attained 770,000 deciatines.

Sugar-beet cultivation was gradually spreading toward the east. Another characteristic feature was that the factory plantations and plantations on large estates were decreasing, whereas the area under beet on peasant farms was steadily extending. This proves that the example set by the large estates, which had introduced beet into their farming, was followed by the peasants with ever growing eagerness. But the yield on peasant land was inferior. The difference would be from 90 to 350 puds per deciatine, according to regions. This somewhat lowered the figure of the average yield per deciatine. It was only during the years immediately preceding the War that we find improved crops and a larger yield of sugar per deciatine, as appears from the following figures:

ANNUAL AVERAGE YIELD OF BEET AND OF SUGAR PER DECIATINE

	1887–1892	*1892–1897*	*1897–1902 (in puds)*	*1902–1907*	*1907–1912*
Yield of beet per deciatine	1,117	1,062	946	1,014	1,075
Yield of sugar per deciatine	108	114	108	126	151

The increase in the quantity of sugar per deciatine is to be attributed both to the better quality of the plant cultivated, which contained a greater percentage of sugar, and also to improved methods of extraction. This is confirmed by the gradual increase in the percentage of sugar produced, as compared with the weight of

roots. In 1887–1888 the beet yielded 9.1 per cent of sugar; in 1892–1893, 10.6 per cent; in 1907–1908, 14.5 per cent; in 1911–1912, 13.6 per cent.

The cultivation of sugar beet gave rise to the very important Russian industry of sugar refining, which may be considered one of the first of its kind in the world, by reason both of the number of refineries engaged in it, and of its high technical level.

Distillation of Spirits.

Another important branch of agricultural industry was the distillation of spirits. Its rapid development encouraged the cultivation of potatoes.

The brewing of beer demanded an increased supply of hops. The cultivation of foreign varieties of hops began in Russia as early as the middle of the nineteenth century. But the unreliable character of the crop and its fluctuating price made its cultivation somewhat hazardous. The total production of hops was in 1902—147,000 puds, and in 1913—470,000 puds.

But if we take the average crops for the periods 1902–1907 and 1909–1913 we find an actual slight decline: from 295,000 to 284,000 puds. Of the total crop for 1913 (470,000 puds) the greater part came from Volhynia (200,000 puds) and Poland (100,000 puds). Hop growing in these districts was under the influence of the Czech colonists. The plant was well cultivated, its shoots being trained over wire network: immense kilns for drying hops were built. Russian hops were well known for their high quality.[25]

Orchards, Market Gardens, and Vineyards.

We will now give a brief description of Russian vineyards, orchards, and market gardens. Regarding the area under vegetables the only data we have are rather obsolete (1887) and embrace only forty-six provinces of European Russia. At that period an area of 1.5 million deciatines was under vegetables in the black-soil zone and of 900,000 deciatines (2,430,000 acres) in the less fertile region, which gives a total of 2.5 million deciatines or an average of 3.9 deciatines per 100 deciatines of grain crops.

[25] See N. K. Mishenkov, *Khmelevodstvo v Rossii* (*Hop Growing in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; also *Statistics of Agriculture of Russia and of Some Foreign Countries.*

Market gardening was more developed in the central western regions and along the Volga and especially in the neighborhood of Petrograd, Moscow, Kiev, and other large cities.[26] In the south large areas were occupied by fields of melons and watermelons, cucumbers, or pumpkins. Some of the suburban market gardens were admirably cultivated. But the gardens that specialized in growing vegetables for their seeds were not satisfactory, so that the dealers in vegetable seeds were generally obliged to import them from abroad, mostly from Germany. During recent years the Department of Agriculture had taken upon itself to provide farmers with improved vegetable seeds. Experiments were made with artificial fertilizers, and better tools. The standard of the average peasant vegetable gardens was also improving.

Fruit cultivation had of late been rapidly progressing, though it fell far short of the level that might have been reached in certain parts of Russia.[27] Full statistics regarding the total area of orchards in Russia are not available. But by approximate calculation we can say that for 1905 it equaled 600,000 deciatines. If we take the average number of fruit trees per deciatine at 250 we arrive at a figure of 150 million trees. Even at the low valuation of half a ruble per fruit tree, we get a value of 75 million rubles. We have data for 1905 relating to twenty-seven provinces of European Russia and of Poland which permit us to establish the proportion of orchards belonging to the peasants. These figures are as follows:

DISTRIBUTION OF ORCHARDS IN 1905

	Total area of orchards	*Area of orchards belonging to peasants*	*Percentage of peasant orchards*
	(in deciatines)		
Provinces of European Russia	243,600	143,900	59
Poland	42,000	22,000	52
Total	285,600	165,900	58

[26] See N. J. Kichunov, *Ogorodnichestvo* (*Vegetable Gardens*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

[27] See V. V. Pashkevich, *Plodovodstvo i meri k ego razvityu* (*Orchards and Measures for Their Development*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; V. V. Pashkevich, *Plodovodstvo srednyavo i yuzhnavo Povolzya* (*Fruit-growing in the Volga Region*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1909.

Thus, we see that six-tenths of the orchard area belonged to the peasants. Of course the best cultivated orchards were to be found only on large estates. Until recent times the orchards of the landed gentry possessed a high value as a means of instruction. It was only quite lately that the zemstvos and the Department of Agriculture began to improve peasant orchards, by founding horticultural schools, and laying out nursery gardens, thus making peasant orchards independent of the large estates.

The cultivation of the vine, owing to climatic conditions, could only be pursued successfully in the south of Russia.[28] The following figures show the area of vineyards, and the yield of grapes and of wine obtained (these data are all very fragmentary).

AREA UNDER VINEYARDS AND THE YIELD OF GRAPES

Year	*Area under vineyards (in deciatines)*	*Total yield of grapes (in millions of puds)*	*Yield per deciatine (in puds)*	*Quantity of wine produced*[29] *(in thousands of vedros)*
1905	229,700	..	..	....
1910	246,700	34.8	141	18,786
1912–1913[30]	211,100	35.2	..	23,670

The area of vineyards fluctuated greatly from year to year. A steady expansion of the area occurred only in the province of Kherson, the Don Territory, and Cis-Caucasia. On the contrary, in Trans-Caucasia the area showed a marked decline owing to phylloxera. The fluctuations in the vintage were very pronounced and did not correspond to the changes in the area of vineyards. At the end of the nineteenth century Russian vineyards suffered severely from phylloxera. The infection had been brought to the Crimea and the Caucasus in the eighties. But in the nineties European vines began to be replaced by American stocks. Vines grafted on these stocks continued to thrive in spite of the disease. A number of nurseries for the cultivation of vines were laid out. Two of these pos-

[28] See A. S. Romanovsky-Romanenko, *Sovremennoe polozhenie vinogradstva i vinodelya v Rossii* (*Vineyards and Wine Making in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; B. A. Witmer, *Amerikanskya lozi* (*American Vines*), *ibid.;* also *Statistics of Agriculture of Russia and of Some Foreign Countries.*

[29] Vedro = 2.7 gallons.

[30] Data for the period 1912–1913 are incomplete.

sessed over 1.100 thousand meters of American material for grafting (principally the "rupestis monticola" variety). Recently the vineyards have to a great extent recovered from phylloxera, thanks to the efforts of the zemstvos and the Government.

The second scourge of the Russian wine industry was the adulteration of wines, which rendered the sale of natural wines unprofitable. In 1907 a campaign was conducted against adulteration and a special bill for its repression was considered. To improve the standard of vineyards the Department of Agriculture founded a number of pomological schools, also of special schools for viticulture and wine making; and many other measures were adopted.

Tobacco.

Another crop of importance was tobacco.[31] Many different kinds of tobacco were cultivated in Russia, even the best qualities, but principally the less valuable varieties. The development of tobacco cultivation from 1901 to 1913 may be seen in the following figures.

CULTIVATION OF TOBACCO

Annual average for the period	*Number of plantations (in thousands)*	*Area under tobacco (in deciatines)*	*Total yield (in thousands of puds)*	*Yield per deciatine (in puds)*
1901–1905	488	63,000	5,589	81
1906–1910	352	60,000	5,525	91
1911–1913	326	65,000	7,184	113
Increase or decrease from 1901–1905 to 1911–1913	—162	+2,000	+1,595	+32

The number of plantations had been reduced. Their average size, though slightly increased, was still very small. Instead of 0.12 of a deciatine, it was now 0.2. This shows that tobacco growing remained a peasant industry. The other figures disclose that this industry was rapidly developing before the War. The greater part of the tobacco was grown in the fifty provinces of European Russia

[31] *Statistics of Agriculture of Russia and of Some Foreign Countries;* also S. A. Egiz, *Sövremennoe polozhenie tabakovodstva v Rossii* (*Cultivation of Tobacco in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

and in the Caucasus. In the fifty provinces of European Russia in 1911–1913 there were 43,100 deciatines of plantations, yielding 5,668,000 puds; and in the Caucasus 21,700 deciatines with a yield of 1,428,000 puds.

About three-quarters of the total crop consisted of tobacco of the poorest quality. That which went to make the best brands was chiefly cultivated in the Caucasus and in the Crimea. In the northern provinces of European Russia only inferior kinds were grown (the Russian *makhorka* and *bakun*). Of the better qualities, cigarette tobacco, 1,613,000 puds, was principally cultivated as compared with only 195,000 puds of cigar tobacco. The price of the inferior qualities of tobacco was only 1.5 ruble per pud; that of the brand most frequently used for cigarettes, 7.5 rubles per pud; the superior qualities, such as the *Dubeck* of Yalta, up to 20 rubles per pud. The total tobacco crop was valued at about 30 million rubles for 1911–1913. The preparation of the tobacco leaf formed a further important branch of industry.

Rice and Tea.

A certain quantity of rice[32] was also grown in Russia. This, like cotton, was limited to the Caucasus and Turkestan. In 1912–1913 it occupied an area of 214,300 deciatines and yielded 17.7 million puds of unhusked or about 9 million puds of husked rice.

To complete our survey of the various crops, mention must also be made of the tea plant. Tea planting was still in its infancy, but each year the area of the plantations was extending.[33] This plant can be cultivated only in the central and southern parts of the Caucasus on the coast of the Black Sea. The following figures show the development of the tea-planting industry during the years preceding the War.

[32] See *Statistics of the Agriculture of Russia and of Some Foreign Countries;* also N. P. Taratinov, *Kultura risa v Rossii* (*Cultivation of Rice in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

[33] See *Statistics of the Agriculture of Russia and of Some Foreign Countries;* also N. B. Andreev, *Razvedenie maslini i chaya v Rossii* (*Cultivation of the Olive Tree and the Tea Plant in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

CULTIVATION OF THE TEA PLANT

Years	*Area of plantations (in deciatines)*	*Total yield (in Russian pounds)*[34]	*Quantity of tea produced*
1905	387	639,000	158,500
1913	818	1,355,700	319,300
Increase from 1905 to 1913	431	716,700	160,800

The Department of Agriculture encouraged the development of tea plantations by organizing model plantations, and by publishing pamphlets on the subject both in the Russian and in the Georgian language.

Agricultural Credit.

We have tried to give an outline of the development of Russian agriculture during the years before the War. The figures we have quoted bring out the particularly rapid development during the decade that immediately preceded it, especially in the years following the Japanese war and the revolution of 1905–1906. In the whole history of Russia no other period compares with it: private landowners, the Government, the zemstvos, coöperative and other agricultural societies—all contributed to raise the standard of Russian agriculture. Lack of funds and scarcity of credit stood in the way of all farmers, but especially of the peasants. It was therefore essential to find means of providing prompt credit facilities for agriculturists. This was done before the War.

The State banks, the State Nobility Bank, and the State Peasant Bank, as well as a number of private banks, lent for long periods on mortgage. The indebtedness of private landowners to these banks in 1904 and 1914 is shown in the following figures.[35]

[34] One Russian pound = 0.9 English pound.

[35] *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

MORTGAGES

Where mortgaged	*Number of estates mortgaged*	*Area mortgaged*	*Sums advanced*	*Debt outstanding*
	On January 1, 1904			
	(in millions of deciatines)		*(in millions of rubles)*	
State Nobility Bank	28.5	19.5	804.3	775.0
State Peasant Bank	51.4	6.9	393.6	379.9
Private banks	101.4	33.0	1,015.7	924.7
Total	181.3	59.4	2,213.6	2,079.6
	On January 1, 1914			
State Nobility Bank	32.0	15.5	873.0	831.3
State Peasant Bank	375.8	16.2	1,398.1	1,326.4
Private banks	111.4	35.2	1,502.1	1,374.9
Total	519.2	66.9	3,773.2	3,532.6

The number of estates mortgaged had greatly increased at the latter date, especially those owned by the peasants and mortgaged to the Peasant Bank. This denotes the great activity of this bank during the years immediately before the War.

The area of estates mortgaged to the Nobility Bank had decreased. The area of estates mortgaged to private banks (chiefly estates belonging to the gentry) had remained nearly stationary. But the area of land bought by the peasants with the assistance of loans from the Peasant Bank, granted on mortgage of the land acquired, had, on the contrary, increased by more than 9 million deciatines. The sums advanced by the Peasant Bank also showed the largest increase. If we assume that the Nobility Bank and private banks made loans only to the owners of large estates and that only the Peasant Bank made loans to the peasants, we arrive at the following conclusions as to the changes in the amount of credit granted to the owners of large estates and the peasants respectively in the period 1904–1914.

CREDIT GRANTED TO OWNERS OF LARGE ESTATES AND TO THE PEASANTS

To whom granted	Amount of loans 1904	1914	Increase	Percentage of the total amount of loans 1904	1914	Increase, decrease
	(in millions of rubles)					
Owners of large estates	1,820	2,375.1	555.1	82.3	62.9	—19.4
Peasants	393.6	1,398.1	1,004.5	17.7	37.1	+19.4
Total	2,213.6	3,773.2	1,559.6	100.0	100.0	....

These figures illustrate the fundamental change that had taken place in mortgage loans. The fact was little known abroad and even in Russia its importance was not sufficiently appreciated. It denoted a rapid "democratization" of mortgages. This form of credit was more and more exclusively granted to the peasants.

As regards advances for agricultural improvements, it must be admitted that these had not yet assumed considerable proportions, though some progress was made during the last years.[36] In 1911–1913 the total number of loans was only 421 for the sum of 1.9 million rubles.

A survey of the important part played in the development of Russian agriculture by coöperative organizations and especially by credit coöperative societies is given in another volume of this series,[37] and therefore will not be discussed here.

Government Assistance.

During the years preceding the War all the efforts of the Government, the zemstvos, and the associations of peasants were directed to the technical improvement of agriculture.[38]

[36] See *Statistics of the Agriculture of Russia and of Some Foreign Countries;* also S. J. Slastikov, *Meliorativni kredit v Rossii* (*Credit for Agricultural Improvements in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1909.

[37] See A. N. Antsiferov, *Credit and Agricultural Coöperation* in the volume *The Coöperative Movement in Russia during the War* (Yale University Press, 1929), in this series of the "Economic and Social History of the World War."

[38] See *Selskokhozyaistvenhi promisel v Rossii* (*Agriculture in Russia*), Petrograd, 1914.

The State acted through the Department of Agriculture. The latter underwent many modifications during the period of its existence, according to the standpoint from which its policy was directed and the objects on which, at different times, special stress was laid.[39] The budget of this department showed the following fluctuations at various dates from 1900 onward.

BUDGET OF THE DEPARTMENT OF AGRICULTURE

	1900	*1905*	*1910*	*1913*
		(*in millions of rubles*)		
Revenue	88.6	67.9	93.5	114.7
Expenditure	41.0	47.3	85.7	135.5
Surplus or deficiency	+47.6	+20.6	+7.8	—20.8

Notwithstanding the increase of revenue (from State forests and State land) the expenditure of the Ministry increased at a still greater rate. The expenditure for the development of agriculture in particular was rapidly growing. It was 4.4 million rubles in 1900; 5 million rubles in 1905; 13 million rubles in 1910; and 43.1 million rubles in 1913.

The zemstvos competed with the State in the sums expended for the purpose.[40]

The total yearly expenditure of the State and zemstvos combined on agricultural improvement, attained before the War 60 million rubles; certain additional items raised this sum to 80 million rubles. This is not much for so large a country as Russia (less than one ruble per deciatine of cultivated land), but the rapidity with which the expenditure was increasing testifies to the great progress achieved in this respect before the War.

Another important feature of this period was that the independent and sometimes even antagonistic efforts of the State and local governments to improve agriculture were giving place to concerted action. The Department of Agriculture would frequently hand over sums it had assigned for this purpose to the zemstvos.

[39] See *Selskokhozyaistvennoe vedomstvo za 75 let ego deyatelnosti, 1837–1912* (*Seventy-five Years of the Work of the Department of Agriculture*), published by the Department of Agriculture, Petrograd, 1914.

[40] See Polner, Prince Obolensky and Turin, *Russian Local Government during the War and the Union of Zemstvos* (Yale University Press, 1930), in this series of the "Economic and Social History of the World War."

Agricultural Societies and Associations.

Besides the State and zemstvos, associations of peasants and landowners were also working for the improvement of farming. These were the agricultural societies and *artels* or agricultural associations.

At the beginning of 1914 there were 4,685 agricultural societies in Russia. The rapidity with which they had sprung up during recent years can be judged from the following figures. There were only 175 societies before 1896. Between 1896 and 1901 263 were added; between 1902 and 1907, 1,275; and in the last six years (1908–1913) 2,967 new societies were formed, that is, 63.5 per cent of the total number. The extraordinary rapidity with which these societies developed is to be attributed to the great change that took place in the psychology of the mass of the farmers. As the very great majority of the latter belonged to the peasant class we may rightly look upon this tendency to form associations as a sign that the Russian peasants were awakening from their lethargy. The events of 1905–1906, the agrarian reforms of 1906 and the following years, the activity of the newly established Russian Parliament, the efforts of the State and the zemstvos, the active work of the co-operative societies—all these were bearing fruit. They aroused the population and stimulated local organizations.

The budget of most of these societies was not very large, but in more than half of even the smallest of them it exceeded 500 rubles.

Another form of independent, collective effort was the organization of *artels* or agricultural associations. This was one side of the activity of the agricultural coöperative societies, and is discussed in another volume of this series.[41]

Education.

The State, the zemstvos, and other bodies spent large sums on the promotion of agricultural knowledge. Agricultural schools were founded; also much instruction was given, apart from schools, on all questions of importance to farmers.

[41] Antsiferov, *Credit and Agricultural Coöperation* in the volume, *The Co-operative Movement in Russia during the War* (Yale University Press, 1929), in this series of the "Economic and Social History of the World War."

The number of agricultural schools under the supervision of the Department of Agriculture increased from 155 in 1900, to 233 in 1906, and to 360 in 1913. Thus in the course of thirteen years the number had more than doubled. Special instruction in agricultural subjects was also given in many other kinds of schools. The expenditure of the Department of Agriculture on schools had increased between 1901 and 1913 from 1.1 million rubles to 6.8 million rubles. The following table gives the number of schools and of the general attendance.

SCHOOLS OF THE DEPARTMENT OF AGRICULTURE

Types of schools	*Number of schools*		*Number of students*		*Number of graduates*	
	1901	*1912*	*1901*	*1912*	*1901*	*1912*
Colleges	2	8	223	3,922	48	227
Secondary schools	11	17	1,581	2,697	257	224
Primary schools	158	280	5,961	11,339	1,266	2,236
Total	171	305	7,765	17,958	1,571	2,687

The number of graduates was not yet very considerable. In 1912 it was only 6 per cent of the total number of college students.

Agricultural instruction outside of schools, that is, the advancement of agricultural knowledge among the adult population, was practiced on a large scale only during the very last years. It was chiefly done by means of courses and lectures on agricultural topics. From 1901 to 1912 the number of courses had increased from 11 to 868; the total attendance during the same period had risen from 1,200 to 57,900. The number of lectures given rose from 35 in 1905 to 11,462 in 1912; the attendance, from 31,000 to 1,046,000.

Much assistance was given in spreading agricultural knowledge by the Petrograd Agronomic Museum and the botanical gardens named after Peter the Great; also by the agronomic sections of other local museums and other local botanical gardens (Crimea, Caucasus, etc.).

Agricultural exhibitions were also of considerable importance. During the last five years their number had doubled, reaching 1,026 in 1913. The credits granted by the Department of Agriculture for the organization of such exhibitions reached 382,000 rubles in 1913. Part of this sum, 140,000 rubles was set apart for the organi-

zation of local exhibitions. During the agricultural exhibition of Kiev an important conference took place. Over 1,000 members attended and 150 papers were read.

On November 15, 1912,[42] the All-Russian Chamber of Agriculture was instituted and began work immediately. Its function was to represent and protect the interests of Russian farming; to ascertain its chief needs and give all possible assistance to the zemstvos, to agricultural associations, and to private farmers.

A factor that assisted no less in spreading agricultural knowledge and in dealing with the difficult problems of Russian farming was the agronomical press. In 1914 the total number of such periodicals was 352. Of this number 237, or over 67 per cent, were exclusively devoted to questions concerning farming. But apart from periodicals, the development of other kinds of literature on farming was also very rapid: encyclopaedias, textbooks, serials, separate volumes, and pamphlets. Many of these books and pamphlets had a wide circulation. The zemstvos, the State, coöperative societies, agricultural societies, and private publishers—all took part in issuing publications of this kind.

Model Farms.

We must not omit mentioning, among the steps taken for the improvement of agriculture, the experimental institutions and model farms. In 1901 their number was only 63; in 1912 it had reached 212. Of these, 170 belonged to the zemstvos, 62 to the Department of Agriculture, and 65 to agricultural societies. Their number had thus increased nearly fourfold in eleven years. The large proportion owned by the zemstvos may be explained by the fact, mentioned above, that the Department of Agriculture would often turn over part of its funds to those bodies. The number of experimental farms increased more rapidly than any other institutions (from 34 to 113). It was on the basis of these allocations of State funds that the experimental institutions not only of the Government but also of the zemstvos showed such rapid development.[43]

[42] All dates in this monograph are given according to the Russian calendar.

[43] Considerations of space prevent us from giving details regarding the experiments conducted and the interesting results obtained.

In order to assist the population in raising the standard of farming, it was very important to create a comprehensive agronomic organization. In 1906 there came to life local institutions for the advancement of agriculture, thanks to which practical help was brought much more within the reach of the public. In 1913 the number of such institutions was increased to 1,675 in the forty zemstvo provinces. The number of agricultural experts increased proportionately both in the Government service and in that of the zemstvos.

In 1913 the total number of persons employed in these agronomic institutions was 5,865. In 1901 the number was only 314. More than two-thirds of the staff were in the employ of the zemstvos. But about two-thirds of all the funds required for the upkeep of this staff was provided by the Government. In 1913 5 million rubles out of an expenditure of 7.9 million were derived from this source.

Improvements.

During the last years preceding the War the Department of Agriculture was assisting energetically in the work of land improvement.[44] Since 1910 this had been carried on with much vigor. The sums devoted to that purpose had increased from 800,000 rubles to 10 million rubles in 1913. These grants made it possible to extend irrigation and drainage works all over European Russia and also to start them in Asiatic Russia and in the Crimea.

Even before that time important works of this character had now and then been undertaken in Russia: the course of certain rivers had been canalized; five hundred thousand deciatines of marshes in White Russia had been drained; also 80,000 deciatines of marshes in the Lake region and in the Baltic provinces; and irrigation works in the Volga region had been undertaken. Great stress had recently been laid on irrigation work in connection with the Stolypin Land Settlement.

In the Crimea irrigation works were extended. In 1900 the irrigation of the Moghan Steppe in Trans-Caucasia was undertaken. In 1909, 23,000 deciatines of North Moghan were irrigated. In

[44] See E. E. Kern, *Ovragi i borba s nimi* (*Ravines and Measures for Their Elimination*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1911; also V. J. Bogoyavlensky, *Raboti po ukreplenyu peskov* (*Afforestation of Sands*), in *ibid.*, for 1908.

1913 a large canal was finished. The irrigation of the Moghan was to provide from 165,000 to 180,000 deciatines of new fertile land. In Turkestan a canal named after Nicholas II, was terminated in 1897–1898. In 1900, 2.3 million rubles were allocated to the irrigation of the Golodnaya Steppe. In 1911 the main canal, 31 versts long, had been finished and an additional sum of 4.9 million rubles was granted for the work. In 1913 the main Romanovsky canal was opened, which was designed to irrigate 45,000 deciatines. After the termination of these works it had been planned to irrigate another 36,000 deciatines. Simultaneously, the draining of the immense marshes of the Barabinskaya Steppe (western Siberia) was taken up. In 1899 the first drain, 271 versts (179 miles) long, was excavated, and in 1905 a whole network of main and subsidiary drains was already in existence, of a total length of 1,568 versts (1,039 miles). By 1913 about 250,000 deciatines had been drained. In 1912 the draining of the marsh steppes of the Amur region was begun. All these vast works of amelioration were in full swing when the War broke out.

The measures taken to prevent the formation of ravines and to deal with crumbling banks and drift sand must also be mentioned among land improvements. In 1908, 115,000 rubles were allowed for this purpose; in 1912 the sum was raised to 750,000 rubles. In addition the zemstvos and the municipalities spent in the latter year 73,000 rubles for the same purpose. Drifting sand is a great danger in many Russian provinces, for it renders vast areas unsuitable for cultivation. In the nineties over 4.6 million deciatines of sand were registered in seventeen provinces of European Russia. The only way to combat it is by afforestation. From 1898 to 1903, 66,000 deciatines were dealt with in this manner, and the work was subsequently extended.

Another very important measure of assistance to rural population was the erection of fireproof buildings. The numerous wooden buildings in the villages were, up to quite recent times, owing to the frequent fires, a source of positive calamity to Russia. These fires involved a yearly loss of 75 to 80 million rubles. The Government spent 36,000 rubles in 1910, on the erection of fireproof buildings, and 3,220,000 rubles in 1912. In this respect a great deal was also done by the zemstvos.

The above is an outline of the rapidly increasing works for the

improvement of agriculture that were being carried out before the War. These efforts had not yet had time to yield their full results, but these would soon have become manifest, if first the War and then the Revolution had not arrested their progress.

CHAPTER III

STOCK BREEDING BEFORE THE WAR

Number of Live Stock.

Pre-war Russia not only yielded an immense quantity of agricultural products, but also bred and reared a very large number of domestic animals. The quality of most of these animals was comparatively poor; they were also reared in a rather primitive manner.

In 1912 Russia had 35 million horses; over 50 million cattle; about 80 million sheep, about 5 million goats, and over 15 million pigs. In relation to population we get the following figures: For every 100 inhabitants: 20 horses, 30 head of cattle, about 50 sheep and goats, and about 9 pigs. Most of the horses, cattle, and pigs were owned in the fifty provinces of European Russia; there were also many sheep in the Central Asiatic possessions and in the Caucasus, where also most of the goats were to be found.[1]

In the fifty provinces of European Russia the largest number were found in the black-soil zone which contained twice as many as the less fertile area. But relatively to the number of inhabitants the latter was better provided, and the *per capita* number both of cattle and of pigs was higher. This may be explained by the extensive scale on which dairying was organized in that area and by the abundance of forest pastures. In the black-soil zone, on the contrary, the number of horses relatively to the population was much higher owing to the great demand for draft animals caused by the type of agriculture prevailing there. In the vast steppe pastures of the southwestern portion of the black-soil zone, great herds of sheep and goats were grazed. Such was the geographical distribution of the domestic animals.

During the last years preceding the War there was a decided increase in the numbers of all animals, except of fine-fleeced sheep. But in proportion to the population there was a diminution. The number of sheep, in particular, was reduced. However, this in no way indicated any decline in the general stock-breeding industry.

[1] According to data given by the Veterinary Administration.

Professor Kuleshov[2] explains the decrease as follows: "Some statisticians have looked upon sheep as the rival of the peasant. It has been noted that in cases where the peasant population increases the number of sheep diminishes; for in some places, where sheep breeding had been flourishing, the peasants crowd them out." Therefore a certain falling off in the number of sheep per inhabitant would only prove that stock breeding had entered upon a new phase. The reduction in the *per capita* number of cattle and pigs, which was noticed during recent years, was a much more serious symptom. This relative decrease occurred in spite of the fact that the actual number of animals increased, the number of cattle increasing by two millions, that of pigs by 1,300,000. The relative decrease indicated that the raising of stock did not keep pace with the growth in population.[3]

Crisis in Stock Breeding.

On the whole we see a decided decline taking place in the breeding of live stock in Russia at the end of the nineteenth and the beginning of the twentieth century. The demand for arable land was so great that meadows and pastures were plowed up. The cultivation of "seeds" hay and of other kinds of fodder had not yet been introduced. Consequently the total amount of available fodder, especially of winter fodder, was diminishing. This led to a decrease in live stock. The number of farms comprising neither horses nor cows was getting larger. The decline in the stock-breeding industry is not only shown by the reduction of the *per capita* number of animals, but is corroborated by the deterioration in the breeds produced. One of the symptoms of this is the smaller average weight of the slaughtered animals. The average weight for oxen in 1902 was 582 Russian pounds[4] in St. Petersburg and 580 pounds in Moscow. In 1911 it was 552 pounds in Petrograd and 550 pounds in Moscow. But in the twentieth century Russia was already beginning to rally from this crisis, just as west European countries had done at

[2] P. N. Kuleshov, *Skotovodstvo na severe i yuge Rossii* (*Stock Breeding in the North and the South of Russia*), St. Petersburg, 1910, p. 4.

[3] See N. A. Kryukov, *Myaso i myasnya zhivotnya* (*Meat and Slaughter Animals*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1912.

[4] One Russian pound = 0.9 English pound.

a somewhat earlier period, as for instance Germany about 1820. The introduction of "seeds" hay and of roots and other kinds of fodder, a more varied rotation of crops, better care of cattle and the use of the animals for breeding purposes—all these measures were paving the way for a triumph over the difficulties with which the industry was faced. Russia was flung into the War at the very moment when it was about to surmount this crisis.

LIVE STOCK IN SIXTY-THREE PROVINCES OF EUROPEAN RUSSIA

Annual average for the period	*Horses*	*Cattle*	*Sheep and goats*	*Pigs*
1903–1904	23,950,000	36,450,000	55,600,000	13,000,000
1907–1908	23,500,000	36,350,000	46,200,000	11,450,000
1911–1913	24,400,000	36,300,000	43,800,000	12,200,000

This table shows that from 1903–1904 to 1907–1908 there was a steady decrease of all classes of animals. During the period from 1907–1908 to 1911–1913, however, only the number of sheep and goats continued to decrease, whereas that of cattle remained more or less stationary, and that of horses and pigs increased.

The changes in the nine provinces of Asiatic Russia from 1903 to 1912 are as follows:

LIVE STOCK IN ASIATIC RUSSIA

Years	*Horses*	*Cattle*	*Sheep and goats*	*Pigs*
1903	4,300,000	4,500,000	9,200,000	700,000
1912	6,600,000	6,800,000	14,500,000	900,000

Here, on the contrary, we see a rapid increase in all kinds of live stock, even in sheep. This indicates that Russian sheep farming had migrated from European Russia to the more thinly populated Asiatic regions.

Still more marked is the difference between European and Asiatic Russia when we compare the *per capita* number of animals. In European Russia the *per capita* figures for all animals had decreased during the period in question: in Asiatic Russia the same period showed a considerable increase in all categories of animals, with the exception of pigs, which were not widely bred in Asiatic

Russia. Consequently we see that new and prosperous branches of stock breeding were being introduced into Asiatic Russia.

The Russian live stock industry suffered not only from scarcity of fodder, but also from various cattle diseases. The number of cases of diseases varied from year to year. But if we compare the average figures for 1900–1904 with those for 1909–1913 we find that the number of animals suffering from infectious diseases had increased from 1,430,000 to 2,079,000, whereas the number of animals which died from diseases or were destroyed had fallen from 174,000 to 151,000. This shows that the conditions of the industry had not improved during the decade preceding the War, as far as epidemics were concerned. Only in the case of rinderpest, one of the most dangerous diseases, was there a marked improvement. This had been achieved by a wide adoption of the practice of inoculation. As a result we see a decrease in the number of animals which died or were destroyed.

The chief shortcoming of Russian stock breeding was the inferior quality of the stock itself. It sometimes happened that the animals were of so poor a kind that they brought loss rather than profit to the owners. According to Professor Kuleshov[5] a sheep does not bring any profit unless it yields from nine to ten Russian pounds of wool yearly. Most of the peasants' sheep gave only five pounds. A similar criticism applied to most of the other animals. Consequently much stress was recently laid on the improvement of the breeds of Russian live stock. The following data describe the condition of different branches of the industry and the measures taken for their improvement.

Horses.[6]

Horses may be considered under three heads: (a) the common and most numerous type of horse, mostly belonging to the peasants; (b) herds of horses belonging to the nomadic tribes; these were kept under a patriarchal system which was gradually dying out; (c) the highly bred type of horse—a class of breeding practiced mostly by

[5] Kuleshov, *op. cit.*, p. 125.

[6] See B. Vitmer, *Zametki po konovodstvu v Rossii* (*Notes on Horse Breeding in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; also Prince S. P. Urusov, *Kratki ocherk polozhenya konevodstva v Rossii* (*Brief Outline of Horse Breeding in Russia*), in *ibid.* for 1908, St. Petersburg, 1909.

the owners of large estates. A very large proportion (86 per cent) of horses belonged to the peasants, and only a small number (14 per cent) to the other social groups. The peasant type of horse was small, weak-limbed, and weak-boned, giving the impression of a degenerating breed. Studs were kept by private owners of large estates and by the State. In 1907 there were 6,138 private studs in European Russia. The number of stallions was estimated at 17,000, that of mares at 177,000, and that of colts at over 100,000. The studs were kept partly for the breeding of riding horses, partly for carriage horses, and partly for the breeding of an improved type of draft horse. The Government kept six studs and forty-one model stables, with permanent stations for stallions. In 1907 there were 5,420 stallions in these stations. The State also organized races and exhibitions at which medals and prizes were awarded. It awarded money prizes and medals for successful raising. Further the Department of Agriculture kept a great number of breeding centers, possessing, in 1907, 215 stallions and six model stables. The zemstvos were not behindhand in their efforts to improve the peasants' breeds of horses. A plan was adopted for raising the general standard of the peasant draft horses, by a careful selection of local breeds.

Cattle.[7]

Eighty-two per cent of the cattle in Russia belonged to peasants. This shows that the peasantry was the class by far the most concerned in the cattle-breeding industry. The peasants possessed more cattle per deciatine of plowed land than did the owners of large estates. In 1900 the former had 54 head of cattle for every 100 plowed deciatines (270 acres); the latter only 28. Of all live stock expressed in terms of cattle, for every 100 deciatines, the peasants possessed 98 head, the landlords 47. During the last years before the War the State and the zemstvo did much to improve peasant cattle by crossing with foreign breeds and by other means.

The trade in cattle and meat was not very considerable, notwithstanding the growing demand for meat in the cities and the great number of cattle available. Among other reasons which hindered the

[7] See N. A. Pakhomov, *Ocheriki po russkomu skotovodstvu* (*Russian Cattle Breeding*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1909.

development of this trade, the very poor arrangements for cold storage must be mentioned. However, during the years immediately before the War a certain number of slaughterhouses provided with refrigerators were in process of construction. Refrigerated railroad vans were also becoming more numerous. In 1903 their number was only 1,907, in 1912, 3,309.[8] On the eve of the War these facilities were giving a great impetus to the home trade in the export of meat.

Dairying, on the other hand, was developing very rapidly, especially the making and export of butter. It is interesting to note that this branch of farming was organized on a coöperative basis.[9] A special volume of this series[10] deals with the question of Russian cooperative societies, so that the development of coöperative dairying need not be recorded here.

Pigs.[11]

Pig breeding was not very extensively carried on in Russia. It was more common in the west and gradually decreased toward the east. In the western regions it had begun to develop rapidly during recent years. The majority of the pigs were owned by the peasants; in 1907 it was estimated that of the 11.4 million pigs in European Russia, 9.5 million belonged to the peasants and only 1.9 million to the large landowners. Hence the development of this industry depended exclusively on the improvement of that part of it which was in the hands of the peasantry. The industry was severely affected by epidemics, which carried off from 30 to 50 per cent of the herds

[8] S. N. Prokopovich, *Ekonomika i statistika kholodilnago dela v Rossii* (*Economics and Statistics of Refrigeration in Russia*), Moscow, 1913, p. 31.

[9] See A. A. Kalantar, *Razvitie kooperativnavo molochnago khozyaistva v Rossii* (*Coöperative Dairying in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1909; also V. V. Morachevsky, *Uspekhi krestyanskago khozyaistva v Rossii* (*Progresses of Peasant Farming in Russia*), *ibid.;* Y. Chizhov, *Artelnya maslodelie i artelnya lavki* (*Cooperative Butter Making and Stores*), 3d ed., Moscow, 1915; also E. V. Emelyanov, *Kooperativnya organizatsii sredi zemledeltsev* (*Coöperative Organizations among the Farmers*), Prague, 1923.

[10] Kayden and Antsiferov, *The Coöperative Movement in Russia during the War,* Yale University Press, 1929.

[11] See L. N. Mordvinov, *Svinevodstvo i meropryatya Departamenta Zemledelya po uluchshenyu etoi otrasli zhivotnevodstva* (*Pig Breeding and the Policy of the Department of Agriculture*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907.

in one summer; to fight this evil, inoculation was extensively practiced, but only during the very last years before the War. It also suffered from the fact that the great majority of the peasants' pigs were of inferior breed. However, the zemstvos, the Department of Agriculture, and agricultural societies, started an energetic campaign to distribute young pure-bred pigs among the peasants. The peasants bought these pigs eagerly, and each year the demand for them was increasing.

Sheep.[12]

In the middle of the nineteenth century sheep farming played an important part in the south of European Russia, where the fine-fleeced type of sheep was prevalent. Many sheep breeders concentrated on this type and even developed a special breed of south Russian merinos. But after the seventies this branch of farming began to decline in the south of Russia, because the area of uncultivated land was more and more reduced; also as a result of the low price of wool. To overcome the crisis an effort was made in the western provinces to adapt sheep breeding to intensive farming; while the sheep owners of the south transferred their flocks first to the Kuban Territory and then to the Siberian steppes. But while this process of adaptation to new conditions was taking place the number of fine-fleeced sheep was decreasing, Russia was surrendering to the United States, to the Argentine, and to Australia the lead in the supply of fine wool on the world markets. The following table gives the figures for the production of merino wool in 1880 and in 1908:

PRODUCTION OF MERINO WOOL

Years	*Russia*	*United States*	*Argentine*	*Australia*
	(in millions of English pounds)			
1880	400	350	280	480
1908	250	450	500	700

As a result of these changes Russia not only ceased to be a wool-exporting country, but had to import it in large quantities, as the following figures show. While in 1881–1890 Russia exported an

[12] See R. R. Pravokhensky, *Ovtsevodstvo v Rossii* (*Sheep Breeding in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1909; also *Statistics of Agriculture of Russia and of Some Foreign Countries.*

average annual quantity of 1.9 million puds and imported 800,000 puds, the respective figures for 1910 were 600,000 puds and 2.2 million puds.

Besides the merino sheep many other commoner types were bred in Russia. But until quite lately, this branch of the industry suffered because no efforts were made to improve the quality of the coarse-wooled sheep. Pravokhensky writes: "The same type of sheep that existed before the time of St. Vladimir[13] exists even now and since the time of Peter the Great no effort has been made to improve its quality."[14] There were some sporadic attempts to raise its standard. Sheep breeding in Little Russia was improved by the introduction and widespread adoption of the Karakul sheep. This breed had been imported from Bokhara and was much in demand; but only quite lately was any endeavor made to improve the quality of the coarse-wooled sheep and of the sheep bred for mutton. These measures yielded some results. The amount of coarse wool obtained began to increase. This can be seen from the following data:

PRODUCTION OF COARSE WOOL

Years	*European Russia*	*Caucasus*	*Asiatic Russia*	*Total*
	(*in thousands of puds*)			
1909	2,200	250	1,000	3,450
1913	2,800	500	2,000	5,300

The most rapid development in coarse-wooled sheep breeding took place in Asiatic Russia. This denotes that the chief center for the common type of sheep had moved from Europe to Asia.

Our description of animal breeding in Russia would not be complete without a mention of beekeeping, and the silk-worm industry.

Beekeeping and Silk-worm Industry.[15]

According to the fragmentary and approximate data relating to 1900, there were over 5 million beehives in the whole of Russia; and 3.6 million only in the fifty provinces of European Russia.

[13] Tenth century.

[14] Pravokhensky, *op. cit.*, p. 471.

[15] See P. G. Chafranov, *Russkoe pchelovodstvo k nachalu XX veka* (*Beekeeping in Russia at the Beginning of the Twentieth Century*), St. Petersburg, 1900; also M. A. Dernov, *Pchelovodstvo* (*Beekeeping*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907; also N. M. Kulagin, *Pchelovodstvo v Rossii* (*Beekeeping in Russia*), in *ibid.*, for 1909.

It was chiefly the peasants who kept bees. From 83 per cent to 93 per cent of the total number of beehives belonged to them. The number of beehives belonging to the same owner was usually small, from ten to fifty. The majority of beehives were primitive and could not be taken to pieces. But in recent years technical improvements were introduced in many provinces, such as frame beehives, sugar for bee feeding, and artificial honeycombs; honey yielding plants were also planted.

The production of honey attained, in 1900, 1.6 million puds, valued at 8.5 million rubles. The production of wax for the same year was 290,000 puds, valued at 5.3 million rubles. Consequently honey and wax gave a gross return of about 14 million rubles. This is not much for a country like Russia. In the United States 50 million rubles were derived from this source during the same period. The profits of small beekeepers were further diminished, for they were cheated and exploited by middlemen.

Sericulture[16] flourished in Turkestan, in Trans-Caucasia, and in the south of European Russia. The quantity of dry cocoons had in 1912 attained 548,500 puds, worth 20 million rubles. In pre-war times the world's harvest of cocoons amounted to 1,150 million kilograms. The share of Russia for 1910–1912 was 10.5 million kilograms or about 0.9 per cent.

Conclusion.

Such was the situation of Russia's stock-breeding industry. A comparison with other countries leads to the conclusion that Russian stock breeding in all its branches (except pig breeding) occupied an important position so far as absolute figures went; just as Russian agriculture did in the absolute amount of crops. But (with the exception of horse breeding) it occupied one of the last places among other nations in respect of the number of animals per hundred inhabitants and per unit of territory; just as Russian agriculture did with regard to the quantity of crops produced per deciatine. In one respect the conditions of Russian stock breeding were even more unfavorable than those of agriculture. During the last years before the War the latter was rapidly attaining

[16] See V. A. Bertenson, *Shelkovodstvo v Rossii* (*Sericulture in Russia*), in *Ezhegodnik* (*Yearbook*) of the Department of Agriculture for 1907 and 1909.

west European and American levels. Stock breeding, on the contrary, was still on the decline. The depression of the nineteenth century, which we have already described, had not been completely overcome so far as stock breeding was concerned. Agriculture, however, had emerged from the crisis and during recent years was showing an unmistakable progressive tendency. This in its turn, was preparing the way for the improvement of stock breeding. Farming had been reformed, fodder plants introduced, and many measures taken to improve the breed of animals. Primitive and unsatisfactory methods of breeding were being replaced by more scientific methods. On the eve of the War Russia had just attained that stage when all this preliminary labor was beginning to bear fruit. Encouraged by the ever growing demand for its products and by the high prices offered, the stock-breeding industry was on the point of surmounting the obstacles that had stood in its way, and this, in its turn, would have proved a step toward a further development of agriculture.

At this moment the War broke out. It cut short all this development. Its influence on Russian stock breeding was even more nefarious than on Russian agriculture.

CHAPTER IV

BALANCE OF PRODUCTION AND CONSUMPTION OF AGRICULTURAL PRODUCE BEFORE THE WAR

Production and Consumption of Cereals and Potatoes.

BEFORE the War Russia was rich in agricultural produce. Russian farming was able not only to satisfy the demands of home consumption, but left a large surplus, which constituted about 80 per cent of the country's total exports. Cereals were the chief item in this produce. They were the most important both in respect of their actual quantity and of their effect on the prosperity of the country.

To get a clear idea of the relative position of production and consumption it is necessary first of all to estimate the demand of the inhabitant for agricultural foodstuffs, that is, for cereals, potatoes, and vegetables. We shall attempt to do this, but some degree of accuracy is attainable only as regards cereals and potatoes. In a very authoritative work, *Influence of Harvests and Corn Prices on Some Aspects of Russian Farming*,[1] the *per capita* consumption of cereals and potatoes[2] was estimated by some at 18,[3] by others at 19[4] puds a year. This figure of 19 puds, evidently, does not represent the normal rate of consumption, as it includes the amount lost in the processes of grinding, etc. Consequently, we shall accept the first figure, that is, 18 puds, as our basis. The same source estimates at 7.5 puds per head of the rural population the annual requirement for feeding live stock and poultry. Add to this 3.3 puds which, according to the estimate of the agricultural census of 1916, were needed per head for sowing, and we get a total of 28.8 puds a year per head of the rural population. For the urban resident the con-

[1] *Vlyanie urozhaev i khlebnikh tsen na nekotorya storoni russkavo selsavo khozyaistva*, edited by Professor A. I. Chuprov and A. S. Posnikov, two vols., St. Petersburg, 1897.

[2] One pud of potatoes has the nutrition value of only 0.19 pud of rye.

[3] See article by Sheherbina; and *Introduction*, in *Influence of Harvests, etc.*

[4] *Ibid.*, pp. 14–16; the extra pud is added to cover the loss sustained during the process of grinding.

sumption was estimated at 15.4 puds.[5] If we remember that about 86 per cent of the population was rural we get a mean figure of 26.9[6] puds as expressing the average annual demand per individual.

On the other hand the Special Council for Food Supply[7] estimated the average demand for cereals at 25.05 puds, and of potatoes at 12.64 puds per head. The nutrition value of 12.64 puds of potatoes equals that of 2.4[8] of rye; so we get a total of 27.45 puds of cereals, or in round figures 27.5 puds per head.

This normal rate is arrived at on the basis of more recent statistical materials. It reflects a slight increase of consumption per head toward the beginning of the twentieth century.[9] We therefore consider ourselves justified in taking this last figure (27.5) as the basis of our estimates. In the following table the population is calculated according to the data of the Central Statistical Committee for the middle of each period or year. For it is evident that it would be equally unsatisfactory to take the figure given for the beginning or the end of the year: the former would be below, the second above the mean. The official data regarding the harvests are taken from the Yearbooks of the Department of Agriculture.

[5] *Influence of Harvests, etc.*, p. 17.

[6] $$\frac{(15.4 \times 14) + (28.8 \times 86)}{100} = 26.9.$$

[7] See N. D. Kondratev, *Rinok khlebov i ego regulirovanie o vremya voini i revolutsii* (*The Grain Market and Its Control during the War and the Revolution*), Moscow, 1922.

[8] $12.64 \times 0.19 = 2.40$.

[9] See A. K. Broshnievsky, *Uslovya sbita russkavo khleba za granitsu* (*Exports of Russian Grain*), St. Petersburg, 1914.

PRODUCTION AND CONSUMPTION OF CEREALS AND POTATOES

Years	*Number of inhabitants at the middle date of the periods or years (in millions)*	*Quantity needed on the basis of 27.5 puds per head*[10]	*Production*[11] *Cereals*	*Potatoes*[12]	*Total*	*Surplus or underproduction, + or —*
			(in millions of puds)			
Average for the period 1900–1906	143.0	3,932.5	4,024.0	303.0	4,327.0	+394.5
1907	148.1	4,072.7	3,909.7	335.0	4,244.7	+172.0
1908	151.5	4,166.2	4,056.0	345.2	4,401.2	+235.0
1909	155.0	4,262.5	4,937.8	382.5	5,320.3	+1,057.8
1910	158.6	4,361.5	4,825.6	426.7	5,252.3	+890.8
1911	162.2	4,460.5	3,877.5	371.2	4,248.7	−211.8
1912	166.0	4,565.0	5,072.1	440.6	5,512.7	+947.7
1913	169.8	4,669.4	5,636.2	416.3	6,052.5	+1,383.1[13]

It appears from these data that the average annual production per head was as follows:

AVERAGE PRODUCTION PER HEAD

Year	*Average production (in puds)*
1900–1906 (average for the period)	30.2
1907	28.6
1908	29.0
1909	34.3
1910	33.7
1911	26.2
1912	33.2
1913	35.6

The following inferences can be drawn from the tables above:

[10] In Belgium and Germany the actual consumption was greater (with the exception of potatoes): it was 29.2 and 28.8 per head respectively. The reason is evident. The cattle being kept stabled in those countries much more grain was included in their ration than in Russia. Here the cattle were let out to graze on the pasture during the summer months. In winter, hay and even straw were their chief food. See A. K. Broshnievsky, *op. cit.*

[11] Finland excluded.

[12] Potatoes are given in terms of rye, taking one pud of potatoes as equal to 0.19 pud of rye.

[13] In the publication, *Influence of Harvests and Corn Prices*, etc., pp. lix–lxiv, the surplus of crops over the quantity needed for consumption is calculated as to European Russia for the period 1883–1892 at an average of 309.6 million puds; for the year 1895 (a very good harvest) at 827.7 million puds.

(1) During the first thirteen years of the twentieth century the improvement in the Russian harvests not only kept pace with the rapid increase of population, but even gained upon it. Therefore Russia had a large surplus of foodstuffs.

(2) This yearly surplus was growing more and more considerable during the years just preceding the War.

(3) The only exception was due to the failure of the crops in the year 1911; the total yield of that year fell far short of the amounts needed for home consumption.

(4) Notwithstanding this bad year the average annual amount of surplus foodstuffs attained during the above mentioned period the very considerable figure of 608.6 million puds.

These conclusions are very similar to those arrived at by the Special Council of Food Supply, which estimated the average yearly surplus of cereals at 656 million puds, and of potatoes at 20 million puds.

Geographical Distribution of Production and Consumption.

To get a clear picture of the interplay of consumption and production in Russia, it is necessary to study their distribution throughout the territory.

In European Russia the main center of production of cereals was the black-soil zone. The importance of this zone is shown by the following figures.

AVERAGE ANNUAL PRODUCTION OF CEREALS FOR THE PERIOD 1909–1913[14]

Area	*Yield (in millions of puds)*	*(percentage)*	*Area under cereals (in millions of deciatines)*	*(percentage)*
European Russia	3,711.5	100.0	441.5	100.0
Black-soil Zone	2,840.8	76.5	184.1	40.6

The population of the black-soil zone was somewhat over one-half of the total population of European Russia.

Under these conditions it was quite natural that the local demand for foodstuffs was not only amply satisfied, but also that large yearly surpluses accumulated. As to other parts of Russia, they were unable to satisfy even the local demand for cereals. Inferior

[14] See *Statistics of Agriculture of Russia and of Some Foreign Countries.*

soil, climatic disadvantages, or excessive industrialization, were the cause of the neglect of agriculture; in the extreme north large expanses of land remained uncultivated and unoccupied. We see, therefore, that Russia may be divided into two sharply contrasted regions: a producing region, with large surpluses of cereals, and a consuming region having no such surplus: the boundary between these two regions corresponds with that between the black-soil and the less fertile zones.

To obtain a clearer notion of these two regions we give a list of the average annual surpluses or deficiencies of cereals and potatoes per head of population for each province separately. These figures are for the period 1909–1913.[15]

REGIONS OF INADEQUATE PRODUCTION

Province	*Deficiency per head (in puds)*	*Province*	*Deficiency per head (in puds)*
St. Petersburg	21.4	Yaroslav	5.7
Moscow	18.9	Smolensk	4.7
Archangel	10.9	Vologda	4.3
Vladimir	10.3	Vitebsk	4.0
Olonets	9.8	Pskov	3.8
Tver	6.6	Perm	2.9
Kostroma	6.3	Vilna	2.7
Astrakhan	6.3	Grodno	2.4
Latvia	6.1	Mogilev	1.8
Kaluga	6.1	Minsk	1.4
Novgorod	6.0	Poland	1.8
Nizhni-Novgorod	5.8		

REGIONS OF SURPLUS

Province	*Surplus per head (in puds)*	*Province*	*Surplus per head (in puds)*
Tauride	30.7	Bessarabia	23.9
Kuban Territory	30.5	Kursk	6.7
Kherson	30.4	Kharkov	6.6
Don Territory	27.5	Kazan	5.8
Samara	25.1	Kiev	3.9
Ekaterinoslav	24.2	Podolsk	3.9

[15] Data of the Special Council for Food Supply, quoted in N. D. Kondratev, *op. cit.*

Province	*Surplus per head (in puds)*	*Province*	*Surplus per head (in puds)*
Ryazan	3.3	Orenburg	8.1
Orel	2.6	Pensa	7.0
Terek Territory	21.5	Simbirsk	6.9
Stavropol	16.4	Esthonia	1.9
Saratov	13.5	Vyatka	1.8
Tambov	12.2	Courland	1.3
Ufa	11.5	Kovno	0.4
Poltava	10.1	Volhynia	0.2
Tula	9.2	Chernigov	0.1
Voronezh	8.3		

If we compare the list of all the "surplus" provinces with the list of the black-soil provinces we shall see that these two lists are nearly identical.

The Nizhni-Novgorod and Astrakhan provinces, though classified by the Ministry of Agriculture as belonging to the black-soil zone are really consuming provinces. Both require a considerable supply of cereals from outside. This is attributable in the case of Nizhni-Novgorod to the industrial character of that province; and in the case of Astrakhan, to the sandy soil that is found in many places (the Astrakhan province lies on the outskirts of the black-soil belt).

Four more provinces, Vyatka, Kovno, Courland, and Esthonia, which lie outside the black-soil zone, generally had a surplus of cereals, but so small that their production and consumption may be considered as nearly equal. The same is true of the provinces of Volhynia and Chernigov, which formed part of the black-soil zone.

The provinces which demanded the greatest additional supplies were those of St. Petersburg and Moscow, because of the large metropolitan areas situated in them.

In Asiatic Russia only Tomsk and Tobolsk were "surplus" provinces. In the former the surplus attained 3.8 puds per head, in the second only 0.3 pud, so that in Tobolsk, too, production and consumption nearly balanced. The same may be said of the Steppe country and of the province of Yeniseisk. In the other parts of Asiatic Russia production was insufficient. This sharp contrast between the regions of surplus and deficiency gave particular importance to the question of transportation. We shall presently give

some details on this subject. These data will also throw some light on the development of the Russian grain markets.

Transportation of Cereals.

The transportation of cereals was rapidly increasing before the War, as the following figures show.

TRANSPORTATION OF GRAIN

Annual average for the period	*Estimated production of grain*	*Estimated transportation of grain*	
	(in millions of puds)		*(percentage)*
1906–1910	4,100	1,131	32.9
1909–1913	4,900	1,531	31.3

We see that only about one-third of the total produce was transported, that is, appeared on the market. During 1909–1913 transportation had increased by 200 million puds, but production had increased still more, which shows that the producers had begun to consume more grain themselves.

Cereals were transported to a comparatively small extent—not more than 25 per cent—by river, canal, and sea; we shall accordingly limit our investigations to railway transportation.

The following figures give an idea of the proportion of different kinds of cereals transported.

TRANSPORTATION OF WHEAT, RYE, OATS, AND BARLEY

Kind of cereal	*Quantity dispatched annual average for the period*		*Proportion of quantity produced annual average for the period*	
	1906–1910	*1909–1913*	*1906–1910*	*1909–1913*
	(in millions of puds)		*(percentage)*	
Wheat	306.3	349.7	29.2	25.8
Rye	108.4	94.2	8.7	6.6
Oats	118.4	130.9	14.1	14.6
Barley	99.6	116.4	18.8	19.9

This table shows that wheat was the cereal of which the largest quantity—more than a quarter—was transported; the second and third places were held by oats and barley. Rye stood, in this respect, last on the list. It was the only cereal for which both the actual quantity, and the proportion, conveyed to market were decreasing. This amount, which had never been large, was growing smaller

every year; as was perfectly natural, for the local consumption of rye was rapidly increasing.

Though the quantity of wheat transported was rising, this increase did not keep up with the increase in the yield, so that a smaller percentage of the total produced was transported. The transportation of oats and barley was increasing both absolutely and relatively to the quantity produced, especially for the latter.

The following table shows the distribution of cereals transported between those transported for home consumption and for export.

HOME AND FOREIGN TRADE IN GRAIN

Annual average for the period	*Grain transported to the home market*	*Grain transported to foreign markets*	*Grain transported to the home market*	*Grain transported to foreign markets*
	(in millions of puds)		*(percentage)*	
1901–1906	327.9	416.8	44.1	55.9
1908–1912	452.0	513.5	46.8	53.2

The increase, both absolute and relative, in the later period in the quantity transported to the home market showed the growing demand of this market. The quantity dispatched for export showed a slight absolute increase, but formed a smaller proportion of the total quantity transported.

The export of grain was almost exclusively from the south of Russia. Southern provinces produced wheat and barley, the principal cereals exported; and were within easy reach from the chief exporting ports. On the other hand the home market was supplied with grain chiefly by provinces situated either in the more distant central agricultural region or in the Volga region. Now, if we study the modifications which took place in the transport of grain in different regions during the early years of the present century, we see that the consignments to the home market were being sent from more and more distant places. Just the opposite was happening in the export trade.[16]

This may be explained as follows: the demand of the home market was increasing and, consequently, had to be satisfied from more and more distant regions. At the same time the increase in the

[16] *Khlebnaya torgovlya na vnutrennikh rinkakh Evropeiskoi Rossii* (*Grain Trade on the Home Market of European Russia*), published by the Ministry of Commerce and Industry, St. Petersburg, 1912.

supply for home consumption was being achieved partly at the expense of exports. This, however, was true only of regions remote from exporting centers. The provinces lying near such centers still tended toward export, because of their geographical situation and because the grain produced there was the most suited for export.

Such was in the main lines the development of the Russian grain trade before the War. We may now consider the organization and conditions of the home grain trade in the period immediately preceding it.

Home Grain Trade.

From the moment when the great network of railways began to cover the vast expanses of Russia, the conditions of the grain trade underwent a complete change. Formerly the transactions in grain would be as follows: the small middlemen bought up the grain from the producers, who were mostly peasants. These middlemen had little capital at their disposal and used primitive methods in carrying on their trade. From the middlemen the grain would be collected by dealers operating on a slightly larger scale. Lastly it would be passed on by these to large firms to be exported, milled, or re-sold on the Grain Exchange. At this period export was still an insignificant item and the bulk was consumed at home. The demand was chiefly for flour, not grain. Consequently the grain trade was closely connected with the mills. The latter were built along the line of rail transport; also in ports and industrial centers.

At this period ready capital played the most important part in the grain trade; sometimes it was supplied by the millowner. Credit scarcely existed, and when it did, it generally took the form of personal transactions based on mutual trust and friendship.

The first stage, that is, the acquisition of grain from the producer, has been little modified by the creation of railways. It remained as primitive and old-fashioned as ever. But the following stages had undergone notable changes: the concentration of large quantities of grain in the hands of capitalists had disappeared, and the part played by merchants of average means, who would collect more or less considerable supplies had become much less important. The railways established direct and close connections between the local markets of the producing districts and the ports, thus facilitating transportation. Moreover, now that nearly all grain was

transported by rail, large quantities could be collected in the railway stores and forwarded direct to the port by a new type of middleman, who bought the grain in small successive consignments. As these new middlemen generally did not possess much ready capital, they would carry on their business by discounting railway invoices so as to make their capital quickly available again, and by keeping in close touch with the port officials. This created a lively local grain trade. The grain would be continually and actually bought up from the producers and dispatched in small quantities to the ports. Here it sometimes happened that great accumulations of grain not finding an immediate purchaser, would react on prices, causing them to fall. This phase of the grain trade was characterized by the existence of a large number of petty dealers who persistently bought up all the grain from the producer. They carried on a succession of short speculations, not so much in the goods themselves as in the railway invoices for the goods; they were constantly sending consignments of grain to the ports. This threw the whole grain trade into great disorganization, and was the chief cause of the chaos reigning there. It had many unfortunate consequences both for the trade and for farming: prices were lowered; the quality of the grain was apt to be poor and unequal; the railway stations were sometimes unable to transport all the grain that was brought to them; more grain would be sold than was reasonable, so that there would not be enough left for home consumption in years of poor harvests, etc.[17]

Only during the last decade before the War did a new tendency make itself felt in the grain trade, which greatly improved its position. The first thing to be noticed is the change which took place in the proportions of grain sold at home and abroad: the grain transported for home consumption increased; those destined for export diminished. This was due to the increased demand for grain in the cities and industrial centers.

At the same time the railway facilities were greatly improved, thus rendering it possible to obviate the excessive accumulations of grain at the stations.

The second important point to note in regard to the last prewar decade is the reaction which set in against the former parceling up of the grain trade. This reaction manifested itself in the pur-

[17] *Khlebnaya torgovlya na vnutrennikh rinkokh Evropeiskoi Rossii* (*Grain Trade on the Home Market of European Russia*).

chase of large quantities of grain direct from the producers, without the intervention of middlemen. These purchases were made by large Russian exporting and by foreign firms through their agents or representatives. The commercial agencies of the railways also took part in the grain trade, as well as special export companies and banks.

Organization of Credit.

The third important feature in the evolution of the grain trade was the rapid development of credit, not only commercial and personal, but loans on security.[18]

As soon as the banks began to take an active part in the business of purchasing grain, either the commodity itself direct from the producers or documents representing it, it became possible to advance money on the security either of the railway invoices, or of the grain lying in storage. Advances of this kind given by private banks reached 984 million rubles in 1911, 796 million rubles in 1912, and 876 million rubles in 1913. In 1894 the State Bank had also been authorized to undertake such operations. At first its activity in this field was rather restricted, but it soon expanded, and during the last years before the War its advances on the security of grain had attained the following considerable figures.[19]

ADVANCES OF THE STATE BANK ON THE SECURITY OF GRAIN

Advances	*1909*	*1911*	*1913*
	(in millions of rubles)		
Direct	71.1	122.7	143.6
Through agencies (other than the railways)	15.2	72.5	100.7
Through the agency of the railways	10.2	9.8	9.6
Total	96.5	205.0	253.9
Advances on the security of railway invoices	40.0	43.8	60.3
Discount of bills	43.2	51.9	40.3

It was an important point that not only the merchants, but also the producers, were able to borrow money on the security of grain.

[18] *Ibid.*

[19] Surveys (*Obzori*) of the principal branches of industry and commerce for 1912, published by *Vestnik Finansov.*

This helped them greatly in marketing their crops. The direct loans made by the State Bank were as follows:[20]

LOANED BY THE STATE BANK TO MERCHANTS AND FARMERS

To whom the loan was made	*1909*	*1911*	*1913*
		(in millions of rubles)	
Merchants	57.6	135.8	164.4
Farmers	28.8	59.7	77.6

This form of assistance to landowners and especially to peasants was chiefly given through the medium of the zemstvos and of banking institutions for small proprietors. However, this type of credit assumed considerable proportions only during the very last years before the War. In January, 1912, it was estimated that 65 zemstvos had received credits to the amount of 10 million rubles and that their actual indebtedness amounted to 1.4 million rubles. In January, 1913, 69 zemstvos had made use of only a quarter of the credits placed at their disposal. Their debt had increased to 2.7 million rubles.

Banking institutions providing facilities for small proprietors were much more successful in developing advances on the security of grain as is shown by the following figures:

LOANED ON THE SECURITY OF GRAIN BY BANKING INSTITUTIONS PROVIDING FACILITIES FOR SMALL PROPRIETORS

On January 1	*Number of associations in receipt of advances*	*Amount of credit authorized*	*Amount actually borrowed*
		(in millions of rubles)	
1910	305	2.9	0.7
1911	523	6.5	2.3
1912	888	8.7	2.0
1913	1,512	20.8	7.2

Other Improvements in the Grain Trade.

As a result of the expansion of credit and the development of the grain trade, serious attention was given to the building of a network of elevators. This helped to remedy one of the most serious

[20] Surveys (*Obzori*) of the principal branches of industry and commerce for 1912, published by *Vestnik Finansov*.

defects of the Russian grain trade, namely the high proportion of impurities in the grain.

Down to 1912 the position as regards elevators was most unsatisfactory. But in 1912 the Ministry of Finance began their construction with much energy, through the medium of the State Bank. The project was to build eighty-one elevators, with a capacity of 58 million puds. They were to be erected in the provinces of Voronezh, Tambov, Penza, Simbirsk, Samara, Saratov, Orenburg, and Ufa. On December 1, 1914, fifteen elevators were already working and forty-six were being built.[21] In these elevators the grain of the several owners was not kept distinct. If the owner desired it, his grain would be screened and all impurities removed by special machinery, which was to be found in each elevator belonging to the State Bank.

Another factor that exercised a very favorable influence on the conditions of the home trade was the activity of trade organizations. Among these the most energetic part was taken by Exchange Committees, by general and local conferences (since 1906) of representatives of trade exchanges, and agriculture, and by their permanent councils. The adoption of the normal grain contract was an important measure taken by the conference. It contributed greatly to the organization of the home grain trade.

Thus, during the years immediately before the War, the Russian grain trade was beginning to show a marked improvement, after passing through a period of serious difficulties.

Production and Consumption of Meat.

Even before the War Russia was poor in domestic animals. The amount of meat consumed yearly just about equaled their natural increase.[22] In 1914, in fifty-one provinces of European Russia (Poland and Caucasus included), the following numbers of animals were killed in slaughterhouses: 5,356,700 head of cattle, 3,708,900 sheep and goats, and 1,719,600 pigs.

The greater part of the meat was consumed in cities and large industrial centers and comparatively little in the villages. Of the above animals slaughtered for meat, the cities and towns consumed 70 per cent of cattle, 62 per cent of sheep and goats, and 57.2 per

[21] *Ibid.*

[22] Speech by M. Naumov, Minister of Agriculture, delivered in the Duma on February 10, 1916.

cent of pigs.[23] The most important markets for meat were the capitals. During most of the year live stock was brought on the hoof to be slaughtered in the cities. Only late in the autumn and especially in winter was it transported as meat.

Some idea of the amount of meat consumed may be given in the following figures of the quantities transported by rail:

TRANSPORTATION OF MEAT BY RAIL

Annual average for the period	*Meat (all kinds except pork)*	*Pork and lard*	*Total*
		(in thousands of puds)	
1906–1910	8,398	3,000	11,398
1909–1913	9,166	3,326	12,492

The following data regarding the number of animals and quantities of meat offered for sale on the St. Petersburg and Moscow markets in a year give some idea of the position in these two principal meat-consuming centers.

CONSUMPTION OF MEAT IN ST. PETERSBURG AND MOSCOW

	Petrograd		*Moscow*	
	1911	*1912*	*1911*	*1912*
		(number of head)		
Cattle	284,819	266,463	310,016	316,522
Pigs	44,832	47,035	.....	66,395
Calves	67,504	64,968	.....	41,247
Sheep	3,191	7,720	.....	18,022
		(in thousands of puds)		
Meat	.....	.....	4,200	3,800

Cattle and meat were transported from the distant regions. Thus, for instance, in 1912 the chief purveyors of live stock to St. Petersburg were the following regions: Orenburg-Turgai, 57,200 head; Voronezh-Don, 40,400; the Steppe region, 35,500; Volga, 31,500; Little Russia, 27,800; north Caucasus, 6,700.[24]

The trade in live stock and meat had practically no organization. Only in Petrograd and Moscow were there any live stock and meat exchanges; but it did not fall within their province to regulate this

[23] *Statistics of Agriculture of Russia and of Some Foreign Countries* (1917).

[24] See *Obzori* (*Surveys*) of Russia's Foreign Trade in 1912, published by the Department of Customs, St. Petersburg.

branch of trade, which was still carried on in a most primitive manner.

Foreign Trade in Agricultural Produce.

Agricultural produce supplied one of the principal elements in Russian foreign trade. The average annual value of imports and exports of such produce—excluding products of forestry—for the period 1909–1913 was as follows:[25] imports, 310.3 million rubles or 27.2 of total imports; exports, 1,189.5 or 79.2 per cent of total exports. The value of the agricultural produce exported was thus more than three times as great as the value imported. It amounted to about 80 per cent of the total export, thereby assuring a credit balance in Russian foreign trade. During the period 1909–1913 this balance had reached an average of about 362 million rubles a year.

The most important items of imports were coffee, cocoa, tea, and objects of luxury, such as the better kinds of wine and other alcoholic drinks, expensive kinds of fish, oysters, expensive furs, etc. A detailed description of the imports therefore presents little interest.

The export of agricultural produce may be subdivided into the three following groups. The average annual value of the exports for the year 1909–1913 are given here under these three heads:[26]

EXPORTS OF AGRICULTURAL PRODUCE

	Value (in millions of rubles)	*Percentage of the total exports*
A. Grain and other products of farming; raw material, manufactured, and semi-manufactured	872.4	58.1
B. Animals and the chief products of animal breeding, preserving, hunting, and fishing	269.1	17.9
C. Sugar, alcohol, and wine	48.0	3.2
Total	1,189.5	79.2

In view of the comparative unimportance of the third group we shall speak in detail only of the first two groups, especially of the first, which formed more than half of the total Russian exports.

Group A was subdivided into the following items: grain (597.6

[25] *Ibid.*

[26] *Ibid.*

million rubles), peas, beans, lentils (25.9 million rubles), flour (20.5 million rubles), seeds (39 million rubles). The value of exports under these four headings was 683 million rubles or 78.4 per cent of the total exports. Other important items were flax, hemp, and tow (100.3 million rubles or 11.5 per cent) and oil cake and other residues (35.5 million rubles or 4 per cent).

These figures show that grain was the chief article of export; flour was exported in insignificant quantities. This was of course against the interests of Russian farming. Russia's share in the supply of the world market with flour amounted to only 4.7 per cent. The comparatively small exports (chiefly to Germany) of oil cake, bran, and other residues should also be noticed. This export was decidedly detrimental to the Russian stock-breeding industry.

During the present century there was an evident tendency to extend the export of grain. During its second decade the export was 30 per cent greater than it had been during the first. Owing to the rise of prices, its value increased by as much as 44 per cent.

The most considerable exports occurred in the three years 1909–1911, amounting to 762 million puds, 848 million puds, and 824 million puds respectively. Later, as a result of the bad harvest of 1911, there was a heavy decrease.

Wheat and barley were the two most important grains exported. Both in value and in actual quantities exported the leading position was taken by wheat. During the five years 1909–1913 the average annual exports attained 258 million puds or a value of 293 million rubles. The average export of barley was 227 million puds valued at 176 million rubles. The actual quantities of barley exported were smaller than those of wheat. But it was the cereal of which the largest proportion was exported; 42 per cent of the total amount grown went abroad, whereas only 27.9 per cent of the total amount of wheat was exported. Oats were comparatively little exported. The average annual export for the above period was only 66 million puds or 9 per cent of the total amount grown.

The importance of the export of rye was noticeably falling. This was due to the increased home consumption. Before the War only 3.6 per cent of the total amount produced was exported. On the other hand, since the beginning of the twentieth century, Russia had imported rye. This item of import was gradually growing and was equal to about one-fifth of the quantity exported.

Toward the end of this period, the export of maize had gained a certain importance, attaining 47 million puds a year.[27]

The following table illustrates Russia's position on the world market. It gives the average annual export of wheat, barley, and oats for the period 1909–1913 for all exporting countries collectively and for Russia separately; also the proportion of Russian exports to the total world export.

WHEAT, BARLEY, AND OATS ON THE WORLD MARKET

	Total exports	*Russian exports*	*Percentage of total exports*
	(in millions of quintals)		
Wheat	170.2	42.0	24.9
Barley	58.4	37.2	63.6
Oats	33.2	10.9	32.7

It appears from the above that about a quarter of the world's exports of wheat came from Russia; about two-thirds of its barley, and nearly one-third of its oats.

The chief customers for Russian cereals were Germany, Holland, and Great Britain, as may be seen from the statistics of the Russian Customs.

DISTRIBUTION OF RUSSIA'S EXPORTS OF CEREALS

To what country exported	*Annual average for the period 1904–1908 Quantity exported (in millions of puds)*	*Percentage of total exports of cereals*	*Annual average for the period 1909–1913 Quantity exported (in millions of puds)*	*Percentage of total exports of cereals*
Germany	135.3	24.0	235.9	32.4
Holland	103.6	18.4	149.8	20.6
Great Britain	119.0	21.1	100.5	13.8
Italy, France, Austria, Belgium, and Rumania	120.4	21.4	160.2	21.9
Total	478.3	84.9	646.4	88.7
Total export	562.5	100.0	727.4	100.0

The principal customers for Russian wheat were Holland, Great Britain, Italy, and France. About three-fourths of the total export was directed toward these countries.

[27] See *Obzori vneshnei torgovli Rossii* (*Survey of Russia's Foreign Trade*), published by the Department of Customs, for the respective years; also *Statistics of Agriculture of Russia and of Some Foreign Countries.*

By far the most important customer for Russian barley was Germany. In the course of one decade Germany had nearly doubled her import. It absorbed about 57 per cent of the total export of Russian barley. Furthermore, considerable part of the barley shipped to Holland was destined for Germany. The sharp increase in the export of barley to Germany may be explained as follows: Under the commercial treaty of 1904, which came into force in March, 1906, a lower rate of import duty was imposed on barley intended for fodder. Consequently the high-grade Russian barley was imported at the lower rate, ostensibly as a fodder but in reality for brewing.

The greater part of these cereals was exported from the southern ports, as may be seen from the following table:

ROUTES OF EXPORTS OF CEREALS

	1911		*1913*	
	Quantity (in millions of puds)	*Percentage*	*Quantity (in millions of puds)*	*Percentage*
Total exports	824.1	100.0	650.9	100.0
Via the Black and Azov Seas	592.0	73.0	482.8	74.2
Via the Baltic Sea	105.5	12.8	68.4	10.5
Via the Russo-Prussian frontier	75.1	9.1	61.7	9.5

Oats were the only cereal chiefly exported *via* the Baltic; but wheat, and especially barley, were almost exclusively shipped *via* the Black and Azov Seas. About two-thirds of the rye was also exported from the southern ports. The first place as regards importance of shipping transactions thus belonged to Nikolaev and Rostov. In 1913 each shipped over 70 million puds. Odessa, Kherson, and Novorossisk followed, each with an export of 50 million puds. Of the northern ports St. Petersburg with 25.6 million puds was the most important.

Organization of Export Trade.

An approximately complete idea of the Russian export of grain cannot be formed unless a brief outline is given of its organization.

We have already mentioned that the development of railways brought about a marked change in the grain trade. After the harvest there would be a continual stream of consignments of grain to the ports. Here immense stocks of grain would be accumulated which required rapid realization. This inevitably placed the Russian exporters in a position of great disadvantage in dealing with foreign merchants. These difficulties were further increased by the bad condition of the Russian grain (owing to the presence of impurities) and by the absence of a coöperation between the exporters. In the countries which imported foreign grain, on the contrary, the importers were generally combined in very strong organizations.

These circumstances deprived the Russian exporters of some of their legitimate profits. In fact, they were forced to sell their grain on the terms laid down by the importing countries. Contracts would be drawn up by foreign organizations of importers. Generally this was done without the participation of the Russian merchants and the contracts often contained clauses that were very unfavorable to them.

At the root of all contracts lay the obligation for the exporter to deliver the grain bought by the importer at the port of destination. The costs and risks all fell on the exporter. The latter had also to guarantee the quality of the grain.[28]

During the last years before the War it was found possible to insist on a revision and considerable improvement of the grain contracts, especially those for Marseilles and Genoa. This was achieved thanks to the general improvement of the organization of the Russian grain trade, and especially through the increased combination of exporters, who had united their forces and were represented by the permanent council of conferences of trade exchanges and agriculture.

The permanent council of conferences and the trade exchanges simultaneously adopted a series of measures to diminish the percentage of impurities. A controlling authority was established by the grain exchange. Its function was to coördinate export transactions; to establish the percentage of impurities that might be tolerated; to fix the required standards of grain, which would

[28] See *Spravochnik po khlebnoi torgovle* (*Grain Trade Directory*), published by the Ministry of Commerce and Industry, St. Petersburg, 1911.

satisfy the requirements of foreign contracts, etc. These measures, however, had not yet succeeded in giving tangible results.

Export of Flax and Hemp.

We have already stated that the average exports of flax and hemp were valued at about 100 million rubles a year. Most of this sum fell to the share of flax. The export of flax occupied the third place in the general scheme of export, yielding precedence only to cereals and to products of forestry.

AVERAGE ANNUAL EXPORTS OF FLAX

	Quantity		*Value*	
	1904–1908	*1909–1913*	*1904–1908*	*1909–1913*
	(*in millions of puds*)		(*in millions of rubles*)	
Flax	13.2	15.1	58.2	77.2
Tow	2.0	2.2	6.3	7.3
Total	15.2	17.3	64.5	84.5

This shows that exports were increasing both in quantity and especially in value.

The flax exported from Russia was almost exclusively bought up by the following five countries: Ireland, which acquired about one-third of it; Belgium and Germany (the share of each being about one-fourth of the total), and France and Austria-Hungary. Taken together these five countries appropriated about 98 per cent of the total export.

The importing countries, with their well-developed flax industry, were very dependent on Russian raw material, for the quantity of flax cultivated in western European countries was insignificant. Seventy per cent of the French, 65 per cent of the German, 60 per cent of the Belgian, and 35 per cent of the Irish demand for flax was supplied by Russia.

For Russian agriculture also the export of flax was a very important asset, helping to establish a more favorable commercial balance, and also encouraging the cultivation of the fiber. About two-thirds of the flax crop was exported.

The export of hemp and hemp tow was much less important: an average of 20.7 million puds of hemp fiber were produced in 1909–

1913, and 3.7 million puds or about 18 per cent, exported. Germany was the chief purchaser.

Export of Eggs and Butter.

Among the various kinds of produce from domestic animals, eggs, butter, and hides occupied a place of some importance. During the last decade preceding the War the export of eggs had assumed considerable proportions, as follows:

AVERAGE ANNUAL EXPORTS OF EGGS

	Quantity	
	1904–1908	*1909–1913*
	(*in millions*)	
Total export	2,755	3,299
including exports to:		
Austria	672	778
Germany	914	944
Great Britain	886	1,155
Holland	68	173

It is interesting to note that Austria exported about twice as many eggs as she imported, and that Russian eggs shipped to Austria were therefore dispatched to some further destination. The same may be said of Germany, which often acted merely as an *entrepôt* for Russian eggs. In Berlin there was a speculative business in Russian eggs. This speculation would be carried on not only in the goods themselves, but in the invoices of the goods in transit. The invoices would sometimes pass from one person to another like any other negotiable paper.

The position of Great Britain was totally different. It was the most important customer on the international market, but bought for its own consumption. In 1911–1913 the average annual import into Great Britain was 2,388.9 million eggs. Of this number the import from Russia was 1,246.9 millions or 52.2 per cent.[29] A larger number of Russian eggs were thus bought by Great Britain than appeared in the customs' statistics.

In the world egg market Russia occupied by far the most prominent place. About 80 per cent of the total number of eggs exported came from Russia. The southern ports played no part at all in

[29] See *Statistics of Agriculture of Russia and of Some Foreign Countries.*

this trade. Half of the goods were shipped through the Baltic ports; half were conveyed by rail to the western frontier. Riga was the chief port for the export of eggs. About two-thirds of the total passed through this town. There were also considerable shipments from St. Petersburg.

The exports of butter during the last decade before the War are seen in the following table:[30]

AVERAGE ANNUAL EXPORTS OF BUTTER

	Quantity		*Value*	
	1904–1908	*1909–1913*	*1904–1908*	*1909–1913*
	(in thousands of puds)		*(in millions of rubles)*	
Total exports	2,966	4,162	39.9	62.3
including exports to:			*Percentage of total exports*	
Great Britain	1,279	1,814	43.1	43.6
Germany	808	1,412	27.2	34.3
Denmark	732	689	24.7	16.5

These figures show that the export of butter had greatly increased both in quantity and in value. About 95 per cent of the total export went to the three countries named in the table, and principally to Great Britain. The shipments to Great Britain and Germany had increased both actually and relatively. As regards Denmark the reverse had happened. It should be noted that the butter exported to Denmark was reëxported thence to other countries, for Denmark was itself the leading butter-exporting country of the world.

The other two principal purchasers of Russian butter were Great Britain and Germany: during the period 1910–1913 a yearly average of 19.1 million puds of butter were placed on the world market. Of this quantity 12.8 million puds were bought by Great Britain, and 3.2 million puds by Germany. Russia occupied the second place as a purveyor of butter on the international market, yielding precedence only to Denmark.

Nearly the whole of the Russian export was shipped *via* the Baltic Sea (94 per cent). The principal exporting ports were

[30] See *Obzori vneshnei torgovli Rossii za 1914 god* (*Survey of Russia's Foreign Trade in 1914*), published by the Department of Customs, Petrograd.

Windaw and St. Petersburg. Butter was chiefly brought from western Siberia.

Export of Hides and Leather.

The exports of raw hides were far more considerable than those of leather. The exports of the latter were insignificant, and much smaller than the imports.

The export of hides was rapidly increasing in respect of quantity and especially of value; small hides were exported in larger quantities than large hides. The difference in price between the two was very great. Thus, for instance, the yearly average export for the period 1909–1913 of large hides was 935,000 puds, to the value of 8.3 million rubles; of small hides, 1,112,000 puds, to the value of 22.2 million rubles.

During the last decade before the War the export of skins had decreased in point of quantity, but it had increased in point of value. The skins exported were chiefly those of sheep and goats. The average yearly export of these amounted to 617 thousand puds or about 82 per cent of the total of exported skins. Its value was estimated at 9.3 million rubles or 56 per cent of the total value of exported skins.

Hides and skins were chiefly shipped *via* the Baltic or by rail across the land frontier. Their destination was Germany, Great Britain, and the United States.

CHAPTER V

CHANGES IN THE CONDITIONS OF AGRICULTURE DURING THE WAR

Introductory.

The circumstances that proved to be of paramount importance to the development of Russian agriculture during the War were the changes in the productive resources of the country and in the output of labor and energy on the part of the peasants and landed gentry. It is as well, therefore, to begin our survey of the years 1914–1917 by describing these changes in detail.

In order to understand the peculiarities of the situation it is essential to find out (1) how far the War diminished the supply of agricultural labor and capital; (2) what effect the War had on the owners' determination to make the most of this supply; (3) how far they were likely to succeed in doing so in the circumstances created by the War.

Mobilization of Men and Requisition of Horses.

The two mainsprings of agricultural production—labor and live stock—were being steadily impaired by the War. According to the calculations of the Mobilization Department 13.7 million men (in addition to the peace-time army) had been mobilized during the three years of War:[1] 5,115,000 in 1914; 5,210,000 in 1915; 2,745,000 in 1916; and 630,000 in 1917.

From 75 to 85 per cent or, on the average, 80 per cent of the mobilized were stated to be peasants;[2] assuming these figures to be

[1] S. N. Prokopovich, *Voina i narodnoe khozyaistvo* (*War and National Economy*), Moscow, 1918, p. 151. With the peace-time army they amounted to over 15,000,000.

[2] A. V. Krivoshein, Minister of Agriculture, gave approximately these percentages in May, 1915 (*Russkoe Slovo*, May 16, 1915). According to S. A. Pervukhin 77 to 81 per cent of the total amount of allowances was paid to peasant families, cf. *Trudi Kommissii po izucheuyu sovremennoi dorogovizni* (*Reports of the Committee for Investigating the High Cost of Living*), Moscow, 1915, IV, 108, 109.

correct, we may say that as many as 10,960,000 peasants were taken away from the countryside; that some 4,092,000 were mobilized in 1914; 4,168,000 in 1915; 2,196,000 in 1916; and 504,000 in 1917. In 1914 the number of peasants of military age was estimated at 27,000,000 and so we may reckon that in each successive year of the War the army absorbed respectively 15.2, 15.4, 8, and 1.8 per cent of this number and that altogether up to 40 per cent of the able-bodied male population of the villages were called to the colors.

The census of 1917,[3] which gives the number of workers called up from each peasant family, shows that these figures are fairly accurate and, if anything, understate rather than exaggerate the depopulation of the country brought about by the War. In two of the thirty-five provinces for which the data have been published less than 40 per cent of workers had been mobilized by the summer of 1917; in five provinces 40 to 45 per cent of the able-bodied men had been taken; in twenty-five provinces the ratio was as high as 45 to 50 per cent; and in seven provinces 50 to 53 per cent. In Asiatic Russia the percentage seems to have been higher still. In nine provinces of Siberia it averaged 49 per cent, and in the Steppe Region it was 55 per cent.

The decrease in live stock was less overwhelming, though this, too, was considerable.

According to the data collected by M. Prokopovich[4] the number of horses that had been requisitioned (in addition to horses bought in the open market by various organizations and military units) was 1,319,300 in 1914–1915; 568,600 in 1915–1916; and 220,400 in 1916–1917; altogether 2,099,000 horses. Reckoning[5] that in various other ways some 500,000–1,000,000 horses were taken for military needs we may say that the War robbed agriculture of not fewer than 2,600,000 horses. The total number of horses in the Empire (not including Poland) was estimated by the Veterinary

[3] *Pogubernskie itogi Vserossiskoi selskokhozyaistennoi i pozemelnoi percpisi 1917 goda po 52 gubernyam i oblastyam* (*The Agricultural and Land Census of 1917 for 52 Provinces and Territories of the Empire*), published by the Central Statistical Bureau, Moscow, 1921, Vol. V, Part I.

[4] S. N. Prokopovich, *op. cit.*, p. 230.

[5] Cf. A. N. Chelintsev, *Selskokhozyaistvennaya geografya Rossii* (*Agricultural Geography of Russia*), Prague, 1924, p. 138.

Department[6] in 1914 at 33.9 million; of these 25.5 million were horses of four years and over; the horses required for the army constituted 10.2 per cent of that number. No precise data are available about oxen, but the percentage was probably the same; there is indirect evidence to show that the number of oxen requisitioned for the army was slightly higher than that of horses.

Factors Which Mitigated the Effects of Mobilization.

But although the blow dealt by the War to the agricultural life of Russia was severe, it was not so bad as might be imagined from the number of workers, horses, and oxen taken away from the countryside. There were a number of circumstances which mitigated and sometimes completely counterbalanced the destructive effects of mobilization and requisition, especially among the peasantry. These circumstances must be borne in mind when considering the effect of the War upon the supply of agricultural labor and capital.

As to labor, it is a well-known fact that by no means all the peasants who were mobilized had been exclusively occupied with work on the land. A considerable number of them also followed various trades and commercial pursuits. What is still more important, agricultural work often failed to absorb the whole labor power of those who devoted themselves to it exclusively. Owing to the fact that the methods of farming were excessively primitive, neither work on the land nor cattle breeding provided a sufficient outlet for the working power of a peasant family, and part of their energy was wasted; some writers on the subject estimate the waste at 50 per cent,[7] even 80 per cent,[8] and even if this be an exaggeration the very possibility of such exaggeration is significant. In any case, mobilization often involved either no loss at all of labor spent upon agriculture, or merely a slight decrease in its amount.

[6] *Statisticheski ezhegodnik Rossii* (*Statistical Yearbook of Russia*), published by the Central Statistical Committee, Petrograd, 1915, Part VII, p. 48.

[7] Y. Y. Polferov, *Ocherednoi vopros* (*The Problem of the Day*), in *Torgovo-Promishlennaya Gazeta*, March 12, 1915.

[8] *Materyali Visochaishe utverzhdennoi 16 noyabrya 1901 goda komissii po izsledovanyu voprosa o dvizhenii blagosostoyanya selskago naselenya* (*Materials Collected by the Committee Appointed on 16th November, 1901, for Inquiring into the Growth of Peasant Prosperity*), St. Petersburg, 1903, Part III, p. 163.

On the other hand the supply of agricultural laborers available cannot be estimated by merely deducting from the total number of workers the number of those who had been mobilized. It must be remembered that the amount of work a peasant family can do is an extremely variable quantity, and that the same number of workers can produce very different results according to circumstances. It is well known that the labor output of a peasant family varies according to the number of "consumers" dependent upon the "workers," that is, according to the number of people who have to be kept by the able-bodied members of a family. According to data collected by M. Chernenkov[9] in the Stavropol district, province of Samara, "every worker with 1–3 dependents farms 3–4 deciatines of arable land, while one with 10 or more dependents is able to manage 9.1 deciatines." M. Chelintsev[10] estimates that in the province of Tambov an adult laborer works the following number of days each year according to the number of people dependent upon him:

Number of dependents	*Number of days*
1.15–1.30	98.3
1.30–1.45	105.8
1.45–1.60	115.2
1.60–1.90	119.2
Over 1.90	149.9

According to M. Chayanov[11] in the Starobelsk district, province of Kharkov, the yearly income of a worker varies as follows relatively to the number of dependents:

EARNINGS OF A WORKER

Area of arable land per worker	*Income of a worker supporting dependents*		
	1 to 1.3	*1.3 to 1.6*	*Over 1.6*
		(in rubles)	
Less than 2 deciatines	76.4	106.3	107.8
From 2 to 3 deciatines	103.5	125.8	136.6
Over 3 deciatines	105.1	128.6	175.8

[9] N. Chernenkov, *Trudovoi krizis v krestyanskom khozyaistve* (*Labor Crisis in Peasant Farming*), in *Russkya Vedomosti*, January 31, 1915.

[10] A. N. Chelintsev, *Teoreticheskya osnovanya organizatsii krestyanskago khozyaistva* (*Theoretical Foundations of Peasant Farming*), Kharkov, 1919, p. 126.

[11] A. V. Chayanov, *101 budzhet Starobelskago uezda* (*101 Budgets of the Starobelsk District*), quoted by Chelintsev, *op. cit.*, p. 7.

Many such instances could be given and they all prove that in case of need and in the absence of any special obstacles workers who had not been mobilized could do much more work than they had done in times of peace.

All observers of peasant life during the War unanimously testify that the output of labor by the non-mobilized men, women, and adolescents was much greater than usual, and this indicates that the peasantry made good use of its labor resources.

Prohibition of Alcoholic Liquors.

Finally, the War was responsible for an entirely new factor, which both increased the quantity and improved the quality of labor available for agriculture. We refer to the prohibition of alcoholic liquor. It is true that in the country vodka was consumed chiefly on the occasion of holidays, family celebrations, etc., and not regularly all the year round;[12] but, nevertheless, compulsory temperance had a very favorable effect upon the amount of work done, especially in the first months.

A number of special enquiries conducted by the zemstvos of Moscow, Vladimir, Simbirsk, Kharkov, and other provinces bear witness to the highly beneficial influence of prohibition.

Peasants addicted to drink, who had once been well off but had squandered their substance on vodka, after prohibition began to repair their tumble-down buildings, to plow and sow in good time, to replace the stock that had been sold, and generally to look after their property [Konstantinograd district, province of Poltava]. The land is being tilled at the proper time and everyone of the peasants is better off than before [Kobelyaky district, province of Poltava]. The worst drunkard, who used to work only one day a week, is now the best worker in the village and has good clothes [Kineshma district, province of Kostroma].[13]

[12] Pervushin, *Ocherki po teorii massovogo alkogolisma* (*Essays on the Theory of Mass Alcoholism*), Moscow, 1912; and *Vlyanie urozhaev na potreblenie spirtnikh napitkov* (*Influence of Harvests upon the Consumption of Alcohol*), Moscow, 1910.

[13] Quoted from Prokopovich, *op. cit.*, p. 153; cf. also *Vlyanie voini na nekotorya storoni narodnago khozyaistva* (*Influence of the War upon Certain Aspects of National Economy*), published by the Ministry of Finance, Petrograd, 1916.

The reports are full of statements such as these. Similar observations are to be found in many of the zemstvo statistical annuals and in agricultural and coöperative magazines.

As a result of all this the effect of mobilization upon peasant prosperity was far from being so detrimental as might have been thought in view of the number of men taken for the army.

Labor Problem on Large Estates.

The landed gentry were far worse off for labor. A great number of the hired laborers whom they employed were taken for the army and it was very difficult to replace them. Engrossed in their own work, the peasants were much less eager than before to hire themselves out as laborers, and if they did so they had no inducement to work more energetically than in pre-war days; on the contrary the whole situation was such as to tempt them to take advantage of the landowners' difficult position and be slack in their work.

Nevertheless, the landed gentry, too, were less affected by the mobilization than might have been expected. This was due to the extensive use they made of prisoners of war. According to the statistics of the General Staff more than 56,000 prisoners of war were employed on various estates in May, 1915; by the beginning of 1916 their number had increased to 260,000, and in 1917 to 430,000.[14] Before the War the landowners (in provinces other than those subsequently occupied by the enemy) used to hire altogether some two million laborers, including daily workers;[15] mobilization caused them to lose something like 800,000 men, and prisoners of war made good more than half of that loss. In addition to prisoners of war landowners employed—to a limited extent, it is true—refugees from the provinces occupied by the enemy and, during the last year of war, soldiers released from the front for agricultural work.

General Effect of the Mobilization of Men.

Our general conclusion that the War did comparatively little to decrease the labor resources of the Russian rural districts is, of

[14] *Reports* (*Obzor*) of the Special Council for Food Supply, Petrograd, 1916, p. 178.

[15] Prokopovich, *op. cit.*, p. 152.

course, true only for Russia as a whole;[16] individual districts differed from one another considerably in this respect. In the industrial provinces round Moscow and in the provinces of Petrograd and Novgorod able-bodied men earned their living in the towns, and work on the land was generally done by women, old men, and adolescents; in these, naturally, the mobilization had practically no effect upon the supplies of agricultural labor. The same thing was true of Little Russia (except the province of Kharkov), the Central Agricultural region, and the Southwestern region; this last was overcrowded with peasant population and provided every year masses of temporary agricultural workers for the south and southeast, where there was a shortage of labor. But the mobilization had very serious effects in the province of Novorossisk, along the Volga, near the Ural Mountains, and in the northern Caucasus, since farmers in these districts, so far from having any labor to spare, used to hire over a million workers yearly. The War also seriously affected provinces near the front, where the population—in some cases women as well as men—had to provide a certain amount of means of transportation, to mend and make roads, and to carry out other tasks. But, of course, the effect of mobilization was not the same in each year; in 1914 it had obviously been different from what it was in 1916 or 1917.

If all these peculiarities of time and place are taken into account, our general conclusion as to the comparatively slight effect of mobilization upon the agricultural life of the country requires some qualification, but its essential truth remains unaffected. In any given locality and in any given year decrease in the supply of agricultural labor was by no means proportionate to the number of men who had been mobilized. Peasants had suffered from the shortage of labor less than the landed gentry, but in either case decrease in the number of hands available was much less than 40 per cent, both because there were circumstances which mitigated the effects of mobilization and because mobilization was less thorough in districts

[16] A. V. Pogozhev, *Uchet chislennosti i sostava rabochikh v Rossii* (*The Numbers and the Composition of the Working Class in Russia*), published by the Imperial Academy of Sciences, St. Petersburg, 1906; *Chislennost i sostav rabochikh Ukraini* (*The Numbers and the Composition of the Working Class in Ukraine*), published by the Central Statistical Bureau, X, 1922, 106; Polferov, *Selskokhozyaistvennya rabochya ruki* (*Agricultural Laborers*), St. Petersburg, 1914.

that were comparatively short of labor than in the overpopulated localities.[17]

Factors Which Mitigated the Effects of Requisitions of Horses and Oxen.

Nearly everything that has been said about the withdrawal of labor may be repeated with regard to the requisitions of horses and oxen. The effects of it were mitigated by the well-known fact that in pre-war Russia there was a surplus of horses and oxen, unquestionably connected with the surplus of labor.[18] According to the statistics given by the Veterinary Department in 1914, there were, on the average, 100 horses of four years and over to every 386 deciatines of arable land throughout the Empire and to every 437 deciatines in the fifty-one provinces of European Russia.[19] This means that at the outbreak of the War some 13 to 27 per cent of

[17] According to the census of 1917 the men mobilized for the army constituted the following percentage of the whole number of adult men:

	Percentage
In twelve provinces where hired laborers from other parts of the country were employed	46.0
In eight provinces that had a sufficient number of agricultural laborers	46.3
In eight provinces that had a surplus of agricultural laborers	49.7

[18] The following table is a clear illustration of this surplus:

Countries	*Years*	*Number of horses per 100 inhabitants*
Russian Empire	1910	21.3
European Russia	1910	18.1
Austria	1910	6.3
Hungary	1909	10.4
Great Britain	1911	3.6
Germany	1907	6.9
France	1910	8.1
United States of America	1910	25.0

The figures would have been even more striking had they referred, not to the whole population of a country but, only to the agricultural section of it. In Russia, owing to the primitive system of farming, less horse power per acre was required than in most European countries. See *Statistics of Agriculture of Russia and of Some Foreign Countries,* 1913, pp. 255–256.

[19] *Urozhai 1914 goda* (*The Harvest of 1914*), published by the Central Statistical Committee, Petrograd, 1915, Vol. II, Introduction; also *Statisticheski ezhegodnik Rossii na 1914 god* (*Statistical Yearbook of Russia for 1914*), published by the Central Statistical Committee, Petrograd, 1915, Part VII.

the available horse power was not utilized in European Russia and some 23 per cent to 36 per cent in the Russian Empire (reckoning that if horse power is to be fully utilized there must be 5–6 deciatines of arable land per horse). It was the same with oxen; figures need not be given, for they closely resemble those relating to horses. It is significant that in many parts of Russia peasants worked as carriers so as to make use of horses that were not needed for agricultural purposes.

On the other hand, the age at which a horse becomes fit for work cannot be rigorously fixed, and any shortage of horses could easily be made good by using young animals, of which there were plenty.

The census of 1916 and that of 1917 make the situation clear. They both give the same small number of acres per 100 horses: the first (in forty-eight provinces) gives 358 deciatines, the second (in thirty-eight provinces) 357 deciatines. This means that only some 60 to 71 per cent of available horse power was utilized for agriculture, so great was the abundance of horses even after three years of War. It is true that some allowance must be made for reductions in the area of arable land, of which more will be said later.

A more detailed table given below shows that we must modify what has been said above about the relative numbers of horses and area of arable land.

NUMBER OF DECIATINES OF ARABLE LAND PER HUNDRED HORSES[20]

Region	*Peasant land*	*Large estates*	*Both categories*
	(deciatines per hundred horses)		
Northern	222	196	222
Lower Volga	255	441	262
Moscow—Industrial	263	330	265
Lake	275	383	278
Southwestern	265	658	317
White Russia	313	556	322
Ural	360	181	358
Little Russia	340	617	364
Central Volga	397	641	407
Central Agricultural	397	606	411
Southern (Novorossisk)	429	549	452
Baltic	461	613	490
Average in 1916 for forty-eight provinces of European Russia	344	568	358
The same in 1917 for thirty-eight provinces	348	556	357

It must in the first place be noted that there was a considerable difference in the number of horses owned by peasants and by the landed gentry. Peasants had horses enough and to spare during the War, while the gentry had barely sufficient and in some districts were distinctly short of them. Secondly, it must, of course, be borne in mind that the situation was not the same in every region. The black-soil zone was on the whole worse off for draft cattle than other parts of Russia. The Southern, the Central Agricultural, the Middle Volga regions, and the Baltic provinces were comparatively poor in horses and oxen; while the Lower Volga, the Central Industrial, and the Lake regions were relatively well provided in this respect.

But these details do not alter the central fact. In the enormous majority of cases there was a clear surplus of horses and oxen and, as a rule, this was so on large estates as well as among the peasants.

[20] *Predvaritelnie itogi Vserossiskoi selskokhosyastvennoi perepisi 1917 goda (Preliminary Returns of the Russian Agricultural Census of 1917)*, published by the Special Council for Food Supply, Petrograd, 1917.

And even in the five regions where the landowners were short of draft cattle the position was far from critical.

And so we see that although the supplies of labor and live stock—the two chief factors of agricultural production—diminished during the War, the decrease was not so great as inevitably to lead to a crisis. The mobilization and the requisitions dealt a heavy blow to many agricultural establishments, but they did not place rural Russia, as a whole, in a hopeless position. War conditions created no insurmountable difficulties in the shape of a complete deficiency of labor or of live stock.

This indicates that the scope of agricultural production during the War and consequently the amount of labor and capital expended upon agriculture depended in the last resort not so much upon the actual supply of either as upon the facility with which they could be interchanged, as well as upon other circumstances (chiefly upon the supplies of agricultural machinery). The subjective factor, that is, the greater or less readiness of the owners to make the most of their means of production, was also of great importance.

Effects on Peasant Farming and Large Estates.

The War undoubtedly had an unfavorable influence in this respect. Mobilization and requisitions were bound to diminish the number of farm laborers for hire and of horses and cattle for sale. The value of both labor and live stock increased so much that it was often unprofitable, or even impossible, for the peasants or landed gentry to part with either.

True, so far as the peasants were concerned, this fact probably did not entail any serious consequences: it has already been pointed out that, owing to the conditions of peasant farming, the mobilization and requisitions were less detrimental to it than they might have been, and that it was by no means necessary to replace all the workers and the horses that had been taken for the army. And when peasants did find it necessary to hire horses and laborers, or to obtain extra help in some other way, the immemorial habit of coöperation and the patriarchal character of their manner of living made the task much easier.

The War gave rise to a new factor which also served to improve the general situation; namely, public propaganda. There were con-

stant appeals by the Government, the zemstvos, coöperative societies, village communes, and private individuals, on behalf of families that were particularly hard hit by the mobilization and requisitions.[21] The public was urged to help with the plowing, the sowing, and the harvesting, to lend horses, to take advantage of agricultural machinery lent, at low charges or even free, from Government, zemstvo, or coöperative stores; and even though these philanthropic measures were not so widespread as might have been wished, they undeniably served to make it both cheaper and easier to hire laborers and horses in the usual way. Only in the south and southeast, where population is scarce, the peasants may be said to have really suffered from shortage of labor and live stock. That in other localities their position was in any case far from critical is proved by the fact that they obstinately refused to employ prisoners of war.[22]

For owners of large estates, however, the scarcity of live stock for sale and, particularly, of farm laborers for hire entailed consequences that were often disastrous. Losses in live stock could, to a certain extent be covered by making the most of the supplies that were still available; but every laborer who was called up or left of his own accord meant so much loss in working power and it was essential to replace him. Yet it was extremely difficult to do so, and not only because the peasants were more than usually busy with their own work. Owing to their having more money than before, as well as to certain other circumstances, in many cases they simply had no need to earn anything further, especially by such unprofitable employment as agricultural labor. It may be confidently asserted that the landowners never succeeded in replacing the 300,000 or 400,000 hired laborers who, according to our estimates, had been lost to them through mobilization, or, if they did replace some, it was only at considerable sacrifice. Otherwise it would be difficult to account for the complaints of the shortage of labor and its exorbitant price, as well as for the urgent demands for the importation

[21] Bogomazov, *Uslovya seva ozimikh v 1915 godu* (*Sowing the Winter Crops in 1915*), in the *Reports* (*Trudi*) of the Committee for Investigating the High Cost of Living, Moscow, 1915, I, 448.

[22] Milyutin, *Selskokhozyaistvennie rabochie* (*Agricultural Laborers*), in Reports of the Committee for Investigating the High Cost of Living, Vols. II and IV.

of labor-saving agricultural machinery, complaints that occurred more and more frequently as the War went on, in the various official publications and special magazines.

Decrease in Agricultural Machinery.

Hardly any agricultural implements and machinery were imported during the War, as appears from the following table:

IMPORTS OF AGRICULTURAL MACHINERY VIA THE EUROPEAN FRONTIER[23]

Description of machinery	*1909–1913*	*1914*	*1915*	*1916*	*1917*
		(in thousands of puds)			
Hand instruments and implements	274	308	110	146	58
Plows (excluding steam plows)	908	267	11	1	8
Harrows	229	116	1	2	4
Simple agricultural machines	3,550	2,779	43	144	303
Complex agricultural machines	3,493	2,769	34	247	1,423
Total	8,454	6,239	199	540	1,796

The table shows that there were no imports worth mentioning except in 1917, though even then they were not large; and by that time the Revolution had broken out, so that the articles could not be put to any use. In 1915 only 199,000 puds of agricultural machinery and implements were imported, that is, only a little over 2 per cent of the average imports during the five years immediately preceding the War; in 1916 the imports were less than 7 per cent of the pre-war average.

A similar change took place in the home production, which before the War supplied about one-half of the agricultural ma-

[23] *1915 god v selskokhozyaistvennom otnoshenii* (*Agriculture in 1915*), published by the Department of Agriculture, Petrograd, 1915–1916; *Izvestia Osobago Soveshchanya po Prodovolstvyu* (*Bulletin of the Special Council for Supply*), data bearing on the fixation of prices of corn and flour in 1916, Petrograd, 1916; *Obzor deyatelnosti Osobago Soveshchanya po Prodovolstvyu* (*Activities of the Special Council for Supply*), Petrograd, 1916; *Statisticheski Sbornik za 1913–1917 godi* (*Statistical Returns for 1913–1917*), published by the Central Statistical Bureau, Moscow, 1922, pp. 14–19. No figures were published after 1915 about imports through the Asiatic frontier; in 1914–1915 they were insignificant. Cf. *Reports* (*Trudi*) of the Committee for Inquiring into the High Cost of Living, IV, 83–84.

chinery needed by the country and was of great importance in providing the market with simple machines and implements. In the early months of the War the enemy occupied Polish provinces where some 140 works producing agricultural machinery were situated (there were 820 of these altogether); as a result of this and of certain other circumstances, production decreased by two-thirds and was valued at only 21.4 million rubles. As time went on the situation became still more serious. The workmen were either taken for the army or transferred to munition factories so that there was a shortage of labor; there was a scarcity of materials, which were allotted to the works in question only after all other branches of industry had received their share; finally, many of the works were transformed into munition factories. The result of it all, as a writer who investigated the subject tells us, was that no new machines, or hardly any, were made, nor any old ones repaired.[24]

On the whole during each year of the War the country was deprived of some 14–15 million puds of agricultural implements and machinery, the regular supply of which was essential to it. The full significance of these figures may be gathered from the fact that Russia never possessed more than 130 to 140 million puds of modern agricultural implements and machinery and probably even less.[25]

The importation of fertilizers also practically stopped. In prewar days more than 28 million puds were imported yearly; but in 1916 the imports were nil. The consumption in Russia decreased accordingly. On the other hand, requisitions of carts and harness reduced still further such equipment as the farmers possessed.

All this proves that the War had an unfavorable effect upon the supplies of machinery and equipment that were necessary to the country if full use was to be made of its labor and live stock. It must, however, be observed that the landed gentry again suffered most. They had a considerable amount of modern implements, and

[24] Charnovsky, *Mashinostroitelnaya promishlennost* (*Machine-making Industry*), in *Narodnoe Khozyaistvo v 1916 godu* (*National Economy in 1916*), published by the Institute of Economics, Petrograd, 1921, IV, 69.

[25] All that had been made and imported during eighteen years (between 1895 and 1912) amounted to no more than 150 million puds. See *Selskokhozyaistvenni promisel v Rossii* (*Agriculture in Russia*), published by the Department of Agriculture, Petrograd, 1915, pp. 24–25.

made use of complicated machinery which was more liable to damage than simple tools; in view of the shortage of labor they were particularly concerned to increase mechanical means of production.[26]

Except in the southern and southeastern provinces where there was plenty of land to be had and the use of agricultural machinery was fairly widespread, the peasantry may hardly be said to have suffered from lack of machinery. This was due partly to the fact that most peasants used only the comparatively simple implements and machines and, partly, to their having no special need to economize in labor. And since the peasants possessed a much larger quantity of implements per deciatine than did the landed gentry,[27] it was natural that they should feel the shortage of implements considerably later in the War.

On the whole, then, circumstances rendered it increasingly difficult to make the most of the supplies of labor and capital that were still available. The peasants and the landed gentry could keep up their former rate of production only at the cost of enormous efforts, inspired by a firm determination to maintain their pre-war economic position at any price. Thus we naturally pass from objective conditions to psychological considerations.

Change in the State of the Market.

Did the War encourage the landed proprietors' tendency to maintain pre-war standards of production?

It is not difficult to answer this question with respect to the landed gentry and the small section of the peasantry who farmed their land on a capitalistic basis. The chief, or indeed the only, consideration they naturally had in view in deciding upon the amount they aimed at producing was the state of the market, which was exceptionally favorable during the War. The conditions described in

[26] According to the census of 1917 only 29 per cent of landed gentry and 52 per cent of peasant proprietors used no improved agricultural machinery; to every 100 plows there were 46 sowing, reaping, binding machines, etc., on private estates and less than 17 on peasant land. See *Pogubernskie itogi* (*Returns for Separate Provinces*), pp. 62–63.

[27] *Selskokhozyaistvennya machini i orudya v Evropeiskoi i Aziatskoi Rossii v 1910 godu* (*Agricultural Machines and Implements in European and Asiatic Russia in 1910*), published by the Central Statistical Committee, St. Petersburg, 1913.

Chapter IX of the present work made a steady rise in the prices of agricultural produce inevitable and, at the same time, secured a good sale for it.[28] What was particularly important, they inspired the producers with the belief that there was no danger of the market ever being overstocked and that the profits would increase as time went on. This peculiar optimism persisted even in the face of government restrictions that sometimes hit the producers rather hard. Many of these restrictions failed to achieve their purpose or could be evaded, and, in any case, food control convinced the producers that demand was far in excess of supply and that their profits would be sure to go on increasing.

In view of all this there can be no doubt that the effect of war conditions upon the landed gentry and peasant capitalistic farmers was to encourage them to keep up production at the pre-war level and to make the most of their resources.

The effect of the War upon the productive activity of the overwhelming majority of peasants, who worked their land not for profit but merely to make a livelihood, was much more complex and difficult to determine.

In the opinion of a number of Russian specialists on the subject,[29] peasant owners of this type are moved, not by a desire to obtain large profits or to accumulate capital, but by a modest striving to utilize family labor to the extent necessary for securing the usual standard of consumption. Until this standard has been reached, the peasants will stop at nothing to increase production, or, if this cannot be done, to acquire money by letting some members of the

[28] See also P. B. Struve, *Food Supply in Russia during the World War* (Yale University Press, 1930), in this series of the "Economic and Social History of the World War."

[29] See Chayanov, of whose many works the most interesting are: *Ocherki po teorii trudovogo khozyaistva* (*Studies in the Theory of Farming for Home Consumption*), Moscow, 1912; *Len i drugya kulturi v organizatsionnom plane krestyanskago khozyaistva* (*Flax and Other Crops in the Scheme of Peasant Farming*), Moscow, 1913, etc.; Chelintsov, *Teoreticheskya osnovi organizatsii krestyanskago khozyaistva* (*Theoretical Basis of Peasant Farming*), Kharkov, 1919; Makarov, *Krestyanskoe khozyaistvo i ego evolutsya* (*Peasant Farming and Its Evolution*), Moscow, 1920. The criticism of this theory will be found in L. Litoshenko's *Evolutsya i progres krestyanskago khozyaistva* (*The Evolution and the Progress of Peasant Farming*), Moscow, 1922, and in S. Prokopovich's *Krestyanskoe khozyaistvo* (*Peasant Farming*), Berlin, 1923.

family seek outside employment. But as soon as the family obtains, in kind or in money, all that it requires, its productive activities slacken. The peasant family is penetrated through and through by *Die idee des standesgemässen Unterhalts*, as Sombart calls it, and it is this that determines both the general character and the details of its activity.

When dealing with peasant families of this type, we are unable to settle by a mere reference to the state of the market whether they were inclined to produce less or more than usual. The state of the market had, of course, some importance for them, but it was certainly not a decisive factor in determining the amount they produced. In the first place, only a small part of their produce found its way to the market: on the eve of the War it was estimated that a peasant household of this type sold not more than 30 to 60 per cent of what it produced.[30] Secondly, the same state of the market would have a very different effect upon the different households, according to whether their needs varied concomitantly with the variations in prices and the general trade conditions, or remained unchanged. It is particularly difficult to say offhand how they were affected by the state of the market at a time of acute social crisis created by the World War.

It is not easy to tell whether the War encouraged the peasants to keep up the pre-war rate of production, even if we turn to factors that directly regulated their productive activity, namely, the size of the village population and the extent of its needs in kind and in money.

Changes in Demand of the Peasants.

The total personal needs of the peasantry, and, in the first place, the consumption of food, decreased as the result of eleven million consumers being taken for the army. In peace-time a grown-up peasant required per year some 20 puds of grain, from 1.5 to 2 puds of meat, from 8 to 15 vedros[31] of milk and dairy produce, from 8 to 15 puds of potatoes and other vegetables.[32] When the mobilized men were put on government rations, the peasant saved the following amount of foodstuffs.

[30] N. A. Svavitsky, *Krestyanskie budzheti* (*Peasant Budgets*), in the Russian Brockhaus and Efron's Encyclopaedia, 2d ed.

[31] One vedro = 2.7 gallons.

[32] Chelintsev, *op. cit.*, p. 8.

REDUCTION OF CONSUMPTION IN VILLAGES

Years	*Grain*	*Vegetables and potatoes (in millions of puds)*	*Meat*	*Milk and dairy produce (in millions of vedros)*
1914–1915	118	67.9	10.3	67.9
1915–1916	188	108.1	16.4	108.1
1916–1917	218	125.3	19.1	125.3

The quantity of grain and potatoes saved was approximately as much as could be obtained from 3 to 6 million deciatines of arable land; Russia in Europe was thus saved the necessity of cultivating, in the different years, from 2 to 4 million deciatines; decrease in the consumption of meat equaled 7 to 18 per cent of the total amount of meat produced in Russia; the savings in milk, butter, etc., equaled the average amount produced yearly by 500,000 to 1,600,000 cows.

Prohibition of Liquors and Peasant Budgets.

As to money, the War brought an unwelcome surplus of cash. Owing to the War the Russian countryside was simply flooded with paper money, which it was often difficult to use profitably. It is worth while to dwell at some length on this peculiar feature of economic life in war-time Russia.

Two circumstances characterized the peasant money budget during the War. On the one hand the expenditure had greatly decreased. It is difficult to calculate the financial consequences of such facts as the decrease in the number of men who went to earn their living in the towns (and the corresponding decrease in the expense of providing them with outfit, fares, and ready cash), the decline in the number of marriages and births, etc.; we propose, therefore, to confine ourselves to the changes in peasant expenditure brought about by the prohibition of liquor.

According to the figures given by M. Pervushin,[33] in the fifty provinces of European Russia before the War the village population consumed 51 million vedros of vodka a year at the cost of 433.5 million rubles; in the Empire as a whole the yearly expenditure on vodka and consequently the amount saved on it after the prohibi-

[33] *Reports* (*Trudi*) of the Committee for Inquiring into the High Cost of Living, Moscow, 1915, IV, 97–98.

tion equaled some 520 or 550 million rubles. Besides, some 115 million rubles a year were saved on beer.

Further, we must take into consideration the expenses which were generally connected with the consumption of alcohol and disappeared after prohibition. It has already been said that peasant drinking was chiefly connected with holidays, weddings, funerals, and other joyful or sorrowful happenings in the home life, and formed an essential part of family celebrations. Prohibition, naturally, had an indirect effect upon the latter. The custom of entertaining visitors for several days was considerably modified during the War, or, indeed, disappeared altogether, and accordingly less money was spent on dainties, sweets, etc. This additional economy brought about by prohibition equaled at least one-fourth of the expenditure on liquor, that is, it amounted to at least 160 or 175 million rubles a year. It must be remembered, too, that the prohibition entailed consequences of a more general character which also tended to diminish peasant expenditure. Decrease in the number of village fires and in the so-called "drunken sales," that is, in obviously unprofitable sales by people who were either drunk or wanted to obtain liquor and who generally had later on to buy back the article at a higher price; greater punctuality in the repayment of debts and consequent economy in additional payments for the delay—all these facts show that we have before us an event of considerable economic importance. Even if we assume that the circumstances just referred to saved the country only one-fourth of the total amount spent on alcohol, which is a very modest supposition, the decrease in expenditure brought about by prohibition equaled 950 to 1,000 million rubles a year. The aggregate peasant yearly expenditure before the War was not more than 3,500 million rubles,[34] and, therefore, prohibition alone reduced that expenditure by approximately one-third.

True, the consumption of alcohol did not stop altogether and, especially during the second half of the War, all sorts of substitutes

[34] It is assumed here that a peasant's yearly expenditure equaled his annual income. The latter was obtained by selling agricultural produce and earning money in other ways. The sale of produce amounted according to Prokopovich (*Voina i narodnoe khozyaistvo,* p. 237) to about 1,900 million rubles and other earning, according to Rybnikov amounted to 1,500 million rubles. See *Reports* (*Trudi*) of the Second All-Russian Congress of the League of Agrarian Reform, p. 58.

for vodka came to be used. But although this circumstance requires us somewhat to modify the above calculations it does not make any important difference, if only because over 40 per cent of the chief consumers of alcohol had been called up to the army and even if they did drink it was at government expense. Besides, we had intentionally minimized the beneficial consequences of prohibition.

New Sources of Revenue.

While reducing the peasants' expenditure, the War enormously increased their revenue. It is impossible to get the exact figures and it is particularly difficult to form any definite estimate of the by no means inconsiderable profits which, owing to the exceptional state of the market, the peasants made by selling agricultural produce and hiring themselves out as laborers. But to form a general idea of the increase in the peasants' revenue it is sufficient roughly to cast up the sums received by them in cash in connection with mobilization and requisitions. The chief of these were:

1. Compensation for horses, carts, and harness requisitioned by the army. Reckoning that about 80 per cent of these were provided by the peasants and that the average amount of compensation paid for a horse, harness, and cart was, during the four years, 250, 300, 400, 500 rubles respectively;[35] we may say that the total revenue of the peasantry under this head was as follows:

AMOUNT OF COMPENSATION PAID TO PEASANTS FOR REQUISITIONED HORSES, HARNESSES, AND CARTS

Year		*(in millions of rubles)*
1914	626,000 × 250 =	156.5
1915	638,000 × 300 =	191.4
1916	388,000 × 400 =	135.2
1917	77,000 × 500 =	38.5

2. Payments for cattle which under normal conditions would not have been put on the market but during the War were either requisitioned or taken from the peasants in some other semi-compulsory way. No direct data on this subject are available and we must have recourse to indirect methods. Let us assume that during the War

[35] All these figures are approximate but are probably sufficiently near the truth.

only half of the meat[36] usually carried by rail was sold in the open market; that the Army Supply Department bought and requisitioned every year as much as was needed for the army according to the normal standards of soldiers' rations, and that the peasants provided 80 per cent of the cattle required. In that case we shall find that in addition to the usual amount the peasants sold the following quantities of cattle: in 1914, 10.9 million puds; in 1915, 31.7 million puds; in 1916, 26.3 million puds;[37] and in 1917, 31 million puds.

If we take the average price of beef in the second half of 1914 to have been 4 rubles per pud, and in the succeeding years 5.5, 7.5, and 10 rubles respectively, the proceeds from selling extra quantities of cattle may be said to have equaled 43.6 million rubles in 1914; 174.4 million rubles in 1915; 197.3 million rubles in 1916; 310 million rubles in 1917.

3. Government allowances to the dependents of the mobilized men. M. Dementiev estimates that altogether some 4,900 million rubles were paid in allowances: 190.6 million rubles in 1914, 623.7 million rubles in 1915, 1,106.8 million rubles in 1916, and some 3,000 million rubles in 1917. M. Pervushin points out that not less than 77 per cent of the total amount went to the peasants.[38] Under this head, then, the peasants' annual revenue[39] was 147 million rubles in 1914; 480 million rubles in 1915; 852 million rubles in 1916; and 2,310 million rubles in 1917.

If all these extra receipts are added up it will appear that, having begun with a comparatively modest sum of 347 million rubles, the new sources of income enumerated above yielded 846 million rubles in 1915, 1,184 million rubles in 1916, and 2,658 million rubles in 1917.

It is perfectly true, of course, that the continual rise in prices made the real value of these sums much lower than the nominal. But

[36] Beef only is meant. The state of railroads made it impossible to supply mutton to the front; and pork, as a more expensive article, naturally took a second place. *Reports* (*Trudi*) of the Committee of Inquiry into the High Cost of Living, II, 21–22.

[37] At the end of 1915 the soldiers' meat ration was reduced by half.

[38] In *Vestnik Finansov* (*Financial Messenger*), 1917, No. 39, p. 367, and No. 41, p. 435.

[39] Not counting the additional allowances from the zemstvos, which equaled some 6 per cent of the government allowances.

this circumstance should not be unduly exaggerated. Taking into consideration the fall in the purchasing power of the ruble, we find that the extra cash received by the peasants bears the following relation to their average money revenue.

INCREASE IN REAL REVENUE

Years	*Total extra receipts (in millions of rubles)*	*Rise in the cost of living as compared with 1914 (percentage)*	*Real value of extra receipts (in millions of rubles)*	*Proportion to the peasants average income (percentage)*
1914	347.1	...	347.1	10.5
1915	845.8	31.5	643.2	19.5
1916	1,184.5	101.7	587.3	17.8
1917	2,658.5	339.7	604.6	18.3

It can be seen from this table that the real value of the extra receipts in the villages toward the middle of the War was somewhere about 600 million gold rubles or about 18 per cent of the amount that, under normal conditions, peasants made by selling agricultural produce and earning money in other ways. These figures would be sufficiently striking even if they expressed a natural increase in revenue as a result of the favorable state of the market. They are all the more significant as evidence of additional, and to a large extent accidental, receipts in no way dependent upon the peasants' own efforts.

Considerable increase of income and reduction of expenditure naturally led to the peasants having a surplus of cash. Students of village life observe that one of the peasant difficulties at the period was superabundance of money. The fact that peasants had really accumulated more cash than they could profitably use is proved by an immense increase in deposits in the coöperative banks and a decrease in the number of loans made by the latter.[40] There are grounds for asserting that during the War the need for money as distinguished from the need for goods was replaced by a desire to get rid of cash.

Thus, the direct consequence of the War was that the chief stimu-

[40] For details see Antsiferov in the volume *The Coöperative Movement in Russia during the War* (Yale University Press, 1929) in this series of the "Economic and Social History of the Great War."

lus the peasants had for making the most of their land—the desire to provide occupation for idle hands and to obtain the usual amount of money and goods for the family—lost its urgent character. How did this affect the peasants' tendency to maintain the pre-war rate of production?

Changes in the Level of Production.

It would be a mistake to interpret what has been said above in a purely mechanical fashion and to suppose that the peasants could only react to these changes by reducing production in proportion to the decrease in the number of consumers and their smaller needs. Such a supposition would imply, regardless of facts, that the shock given by the War to the whole trend of the village life had no effect upon the material and spiritual cravings of the peasants, and that, in spite of their sudden wealth in cash, of the compulsory temperance, etc., the character and extent of their needs remained precisely what it had been before the War. As a matter of fact, war conditions encouraged the peasants either to diminish production, or to increase it, or merely to maintain it at the old level: it all depended upon the relation between the fresh needs created by the new situation and those that had existed before the War, and upon the question whether the absence of a certain number of consumers was counterbalanced by the higher rate of consumption of those who had not been mobilized; and there was no uniformity in this respect.

It is very difficult, therefore, to give a definite answer to the question before us, though it is possible to say something about the tendencies characteristic in this connection of individual regions. It may be said that a marked increase in the consumers' needs and in their tendency to make the most of labor and capital was more often observed in fertile regions than in those which did not grow a sufficiency of grain; that the provinces in which the peasants worked on their own land, or engaged in agricultural work at low wages, had gained financially during the War and showed evidence of greater economic activity than those in which most of the men followed their trade away from home, and where the separation allowance failed, as a rule, to compensate the family for what they had previously earned; that regions in which large families predominated naturally did better than those where man-power was rela-

tively scarce; that the black-soil region presented a more favorable picture in this respect than other parts of the Empire, and so on. But it is impossible to say anything more definite or to give any figures illustrating the change in question.

A few general conclusions may, however, be drawn with regard to the peasants' tendency to increase or diminish production. It is hard to say how much exactly the peasants had to produce to satisfy their own needs, but it is possible roughly to indicate the limits within which their production was probably confined in every district.

It has already been said that, as a general rule, the peasants could not have intended to reduce their output to a minimum and to remain satisfied with providing pre-war rations for a smaller number of consumers.[41] It is easy to show that it would also have been utterly unnatural on the part of the peasants to aim at a maximum of production and to make the utmost use of all their resources. To mention but one reason, this could have been possible only if the town had been able to meet the demand of the countryside for goods, which increased as the peasants acquired more cash. But it was only during the first months of war, when the peasants had not yet had time to develop their new tastes, that there was in the towns a sufficient supply of materials, boots, utensils, tools, and other manufactured articles. As time went on two circumstances seriously interfered with the supply of town goods to the country. In the first place the price of manufactured articles increased at a greater rate than the price of agricultural produce.[42] Secondly, and this was even more important, manufactured articles began to disappear from the market. It would take up too much space to give illustrations of this in figures, but indirectly it is best proved by the fact that the peasants gradually sold less and less in the market and, consequently, bought less and less.

Here are a few data for the main crops showing the ratio between the amount sold and the amount produced:

[41] See Chap. IX.

[42] *Dvizhenie tsen za dva goda voini* (*Fluctuation of Prices during the Two Years of the War*) published by the All-Russian Union of Towns, Moscow, 1916; see also Chubakov, *Tverdya tseni na khleb i krestyanstvo* (*Fixed Prices on Grain and the Peasants*), published by the All-Russian Union of Zemstvos, Moscow, 1917.

PERCENTAGE OF CROP SOLD

Years	*Rye*	*Wheat*	*Oats*	*Barley*	*All kinds of grain*	*All kinds of grain and fodder*
1909–1913	6.6	25.8	16.1	20.4	15.9	12.4
1914	6.0	14.3	15.1	14.5	12.7	10.5
1915	4.3	10.0	10.0	7.6	9.2	7.4

The increased ratio of farming for home use, as illustrated by the table, may have been due both to the lack of manufactured articles and to the growth of home consumption of agricultural produce, but in any case it is clear that the peasants had considerably less interest in the market for industrial products than before the War.

Under such circumstances very narrow limits were set to the peasants' consumption of goods. It could only increase in the case of homemade goods that did not have to be bought and were particularly suited to meet the stable needs of the peasantry. Naturally, therefore, there was not so much inducement to intensive production as there might have been under more favorable conditions.

Modest as our conclusions need be, they yet enable us to form a clear conception of the peasants' tendency to keep up the pre-war level of production. They prove that, although the peasants had no grounds for deliberately producing less, they had no special inducement to produce more than they had done before the War. In the vast majority of cases they probably maintained their usual average rate of production and only some exceptional local conditions could make them deviate from their average, in one direction or the other.

Peasant agriculture was of paramount importance to Russia, but circumstances both of a psychological and an economic character made it extremely difficult, if not altogether impossible, for the peasants to make the utmost of the productive resources still at their command.

This conclusion is of vital importance to our estimate of the conditions brought about by the War. It compels us to admit that the War made it impossible for Russian agriculture to remain at the level it had attained and led to stagnation and even to deterioration. But, at the same time, the War cannot be said to have brought about a crisis severe enough to shatter the foundations of Russian farming, and to inaugurate a long era of decline in organization

and technique. On theoretical grounds it seems reasonable to expect that during the War Russian agriculture with its attendant industries and cattle breeding should decrease in extent and deteriorate while retaining its essential vitality. The facts adduced in subsequent chapters justify this expectation.

CHAPTER VI

CHANGES IN CROPS AND AGRICULTURAL INDUSTRIES DURING THE WAR

Changes in Area under Crops.

Let us begin with the cultivation of the land. The statistics on the subject leave much to be desired, but they show with perfect clearness that in many respects the position was far from normal.

The first thing to note is the decrease in the area under cultivation. According to official statistics the total area of land cultivated in the Empire (excluding Poland and Finland) in 1913 was 99.5 million deciatines. Considering that before the War there was a continual tendency on the part of those engaged in agriculture to increase the area under crops, we may take the above figure as a basis for determining the relative significance of subsequent changes. The following data will enable us to do so:

AREA UNDER CROPS (EXCLUDING FINLAND AND POLAND)

Years	*Area*[1] (*in millions of deciatines*)	*Difference*	*Area* (*percentage*)	*Difference*
1913	99.5	....	100.0	....
1914	101.7	+2.2	102.2	+2.2
1915	95.7[2]	—6.0	96.1	—6.1
1916	90.6	—5.1	91.0	—5.1

The above figures show that in the first year of the War there was no decrease in the area under crops; on the contrary, the tendency to increase it had never been more marked and in 1914 a maximum was reached. Decrease in the area under crops began only in the second year of the War and continued in 1916 though at a less rapid rate.

To grasp the true meaning of this fact we must take a number of circumstances into account. In 1915 Russia had the misfortune to lose a part of her territory, though, as it was then thought, only

[1] *Statistics of the Agriculture of Russia and of Some Foreign Countries*, 1917.

[2] There is a typographical error in the official source making the total for the Empire wrong by 5 million deciatines. It is corrected here.

for a time. As a consequence of the Russian retreat from the Carpathians the enemy occupied, wholly or in part, seven Russian provinces.[3] This resulted in the reduction of the official estimate of the area under crops for the simple reason that the districts occupied by the enemy were not included in the returns for 1915. The area occupied by the enemy was continually shifting, so that it is difficult to estimate the full significance of the loss to Russian agriculture. In any case the land under cultivation in those provinces amounted to several million deciatines,[4] and, therefore, the decrease in the area under crops due to other causes was not so great in 1915 as it appears from official figures. But that some land did go out of cultivation is proved by the figures given below with regard to crops grown in European Russia.

It is essential to bear in mind the following peculiar features in the process of reduction. In Asiatic Russia there was no change;[5] throughout the War, and even in 1917, its total area under cultivation was considerably bigger than the average of the pre-war years and even of 1913; in 1917 as large an area was actually sown as in peace time. This is shown by the following table:

ASIATIC RUSSIA

Years	*Total area under cultivation*	*Area under cereal crops*
	(in millions of deciatines)	
1913	12.3	11.9
1914	13.1	12.6
1915[6]	12.8	12.5
1916	12.5	11.5
1917[7]	12.6	11.9

The great decrease in the area of land under cultivation was most marked in Trans-Caucasia near the front, but its importance was greatest for European Russia.

The landed gentry were hardest hit by the War, and, according

[3] The provinces of Volhynia, Podolsk, Kovno, Vilna, Minsk, Grodno, and Courland; also the province of Kholm, which for the purpose of the present monograph is treated as a part of Poland.

[4] In 1913 it was more than 6 million deciatines.

[5] Except in Turkestan. [6] No full data available.

[7] For Turkestan the figures of 1916 are taken, since none are to be found in the Census of 1917.

to the data of the Central Statistical Committee, in 1915 they were able to sow only 10.2 million deciatines as against 21.8 million deciatines in 1914, that is less than one-half; this difference of more than 11 million deciatines considerably exceeds the difference between the general totals for the two years; hence it follows that in 1915 the peasants cultivated more and not less land than before the War. And indeed, in European Russia the peasants had under grain alone 9 million deciatines more than in 1914; the same thing happened in 1916. This can be seen from the following table:

CHANGES IN CULTIVATED AREAS OF EUROPEAN RUSSIA
(excluding provinces occupied by the enemy)

	Area under cereal crops			
	Large estates		*Peasants*	
Years	*Area*	*Difference*	*Area*	*Difference*
	(in millions of deciatines)			
Annual average for the period 1909–1913	21.3	....	47.0	..
1914	21.8	+0.5	48.2	+1.2
1915	10.2	—11.6	57.1	+8.9
1916	6.5	—3.7	59.8	+2.7
	Total area under crops			
1916	7.7	....	64.0	..

It follows that during the first three years of war some 15 million deciatines of the land belonging to large estates[8] had gone out of cultivation, while the peasants tilled about 13 million deciatines more than they had done before.[9]

Statistics collected by the zemstvos confirm the fact that private estates were seriously affected by the War; thus in the province of Kherson in 1915 the landed gentry cultivated 6.4 per cent less land than in 1914,[10] in the province of Saratov 7.4 per cent less, and so on.

There can indeed be no doubt that the War was responsible for a severe crisis in large-scale farming; and its position had not

[8] The Census of 1916 uses the term private or large estate in the same sense in which it is employed here, that is, to designate establishments of the non-peasant type manned by hired labor.

[9] See *Urozhai* (*The Crops*), published by the Central Statistical Committee, for 1909 (St. Petersburg, 1910) and for 1915 (Petrograd, 1916).

[10] Similar conditions were observed at the time in the Crimea, and in the provinces of Ekaterinoslav, Ufa, and Perm.

improved in 1917. In the case of 14 provinces[11] statistical data enable us to compare the changes in the areas cultivated by the landed gentry and by peasants between 1916 and 1917, and we find that the former were reduced by 17.3 per cent and the latter only by 1.5 per cent. These figures may not be strictly accurate, for probably large landowners had more land under cultivation than is indicated, but, in any case, the difference between the percentages is too striking to be explained merely by a lack of proper information.

The fact that large estates were particularly affected by the War[12] was disastrous for the economic welfare of the country. To mention but one thing, it meant a sudden sharp decrease in the amount, at no time very great, of agricultural produce intended solely for the market. The increase during the War in the proportion of agricultural produce consumed on the farms themselves thus assumed quite exceptional dimensions and inevitably led to serious consequences, both social and economic.

Effects of the Reduction of the Area under Crops.

It would however be a mistake to think that the reduction of cultivated area was of a catastrophic nature and indicated any deep disturbance of the productive resources of the country. These resources were not impaired, and in slightly different circumstances they would have produced much better results; this is proved in the first place by the gradual character of the reduction in the area of cultivated land. As has already been noted, the process did not go on at an increasing rate and in 1917 it slowed down. It must also be observed that even in the very worst years some provinces went on producing more and more. This was the case in twelve provinces in 1915, and in nine in 1916, out of the forty-three provinces for which the Central Statistical Committee gives figures that cover the three years of war.[13] The published results of the Census of 1917

[11] Those of Orel, Tula, Tambov, Saratov, Simbirsk, Kazan, Nizhni-Novgorod, Moscow, Kaluga, Yaroslavl, Kostroma, Novgorod, Vologda, and Olonets. See *The Agricultural Census of 1917*, Moscow, 1921, p. 111. These data, although carefully selected, are not free from criticism.

[12] It should be noted that in the provinces occupied by the enemy more than the average proportion of land under cultivation belonged to large estates.

[13] The data of the Central Statistical Committee are taken from *Urozhai 1916 goda* (*The Crops of 1916*), published by the Special Council for Food Supply, Appendix I, Petrograd, 1917.

refer to fifty-two provinces of European and Asiatic Russia, and according to these in fifteen provinces a larger area was sown in 1917 than in 1916.

The same conclusion is arrived at if the subject is considered geographically. The table given below shows the changes in the area under cereals of the chief territorial subdivisions of the Russian Empire.

CHANGES IN THE AREA UNDER CEREALS

Regions	*1913*	*Area* *1914* (*in deciatines*)	*1915*	*1916*	*Proportion of area in 1916 to area in 1914* (*percentage*)
Forty-three provinces of European Russia[14]		68,695,600	67,181,600	62,001,200	90.2 [91.8]
North Caucasus	6,694,800	6,840,500	6,535,900	5,077,500	74.2
Trans-Caucasia	2,122,000	2,059,700	1,385,700	763,300	37.0
Asiatic Russia:					
Western Siberia	5,854,200	6,172,400	6,019,800	5,873,200	95.1
Steppe region	2,495,300	2,955,400	2,959,600	2,976,000	100.7
Turkestan	2,663,700	2,439,500	2,517,700	1,767,000	72.4
Eastern Siberia and the Far East	950,400	1,062,000	976,100	848,200	79.9
Asiatic Russia as a whole	11,963,600	12,629,300	12,473,200	11,464,400	90.8

Area under Crops and the Supply of Labor and Live Stock.

These fluctuations in the area under cereals do not correspond to the changes in the supply of labor and draft animals available in the localities in question.

These data give the impression that there was no correspondence whatever between the fall of the general index and the reduction in the grain-growing area. Indeed, it is obvious that in the complex situation created by the War this reduction depended not only on the supply of labor but also on other causes connected probably with changes in the state of the market and the psychology of the masses.

[14] The whole territory of European Russia is taken into account except the provinces of Vilna, Kovno, Grodno, Minsk, Podolsk, Volhynia, and Courland. As the Census for 1916 somewhat underestimates the area of land under cultivation the probable correct relation of the areas in 1916 and 1914 is given in brackets in the last column.

SUPPLY OF LABOR AND DRAFT ANIMALS[15]

Regions	*Proportion of men mobilized* (*percentage*)	*Decrease in the number of cart horses between 1914 and 1915* (*percentage*)	*Index numbers of labor: number of able-bodied men in 1917 per hundred deciatines of the "normal" area under crops*	*Index numbers of draft animals: number of head in 1917 per hundred deciatines of the "normal" area under crops*	*General index number 1917*	*Changes in the area under cereals* (*percentage*)
Steppe region	55.0	1.2	21	31	25.5	+0.7
Western Siberia	49.0	2.7	29	44	35.7	—4.9
European Russia	47.5	7.1	39	26	31.8	—8.2

[15] The percentage of men mobilized is calculated from the data of the Agricultural Census of 1917. The index numbers of labor and draft animals are arrived at by calculating the number of able-bodied men and of draft animals per hundred deciatines of the "normal" area under crops, that is, of the area under crops of 1914. The general index number is equal to the geometrical mean between the index numbers of labor and draft animals. The percentage of decrease in the number of draft animals is calculated from the data of *Statisticheski Ezhegodnik Rossii* (*Russia's Statistical Yearbook*) for 1914 and 1915. In the Steppe region of Siberia the non-Russian population is not taken into account.

Yet it is difficult to believe that a considerable decrease in the labor and live stock available should have no effect upon the area under cultivation. It is more likely that the effect was different in the different localities, because the new economic conditions were not everywhere the same, and that in the mainly agricultural regions—that is, in the black-soil zone—it was more pronounced than anywhere else.

In order to substantiate these suppositions it is essential to go into details and to quote the following two tables, the first of which contains the chief data relating to the changes in area under cereals in the main regions of European Russia and the second gives a comparison of the index numbers of labor and animals[16] with the corresponding changes in the area under crops.

AREA UNDER CEREALS

Regions	*Area*[17] *1914*	*1915*	*1916*	*Changes as compared with 1914* *1915*	*1916*
	(in thousands of deciatines)			*(percentage)*	
Southwestern	1,621	1,721	1,669	106.2	102.9
Central Agricultural	9,889	9,864	9,703	99.8	98.4
Little Russia	5,639	5,698	5,479	101.0	97.2
Middle Volga	10,166	10,183	9,837	100.2	96.8
Southern	16,341	15,921	14,309	97.4	87.6
Lower Volga	7,259	7,291	5,988	100.4	82.5
Total for the black-soil zone	50,915	50,678	46.985	99.5	92.5
White Russia	2,693	2,585	2,615	96.0	94.7
Lake	1,644	1,571	1,499	95.5	91.2
Moscow Industrial	3,815	3,579	3,471	93.8	91.0
Ural	5,648	5,431	5,119	96.1	90.6
Northern	759	679	656	89.5	86.5
Total for the less fertile parts	14,559	13,845	13,360	95.1	91.4

[16] See p. 147, n. 15.

[17] Excluding the Baltic provinces.

INDEX NUMBERS OF LABOR AND DRAFT ANIMALS IN 1917 AND THE CHANGES IN THE AREA UNDER CEREALS

Regions	*Index number of labor*	*Index number of draft animals*	*General index number*	*Changes in the area under cereals as compared with the area of 1914 (percentage)*
I. Black-soil zone	34	32	29.2	—7.5
Southwestern	46	32	38.3	+2.9
Little Russia	47	27	35.6	—2.8
Central Agricultural	45	23	32.2	—1.6
Middle Volga	41	24	31.3	—3.2
Lower Volga	18	31	23.6	—17.5
Southern	22	21	21.5	—12.4
II. Less fertile parts	51	29	38.4	—8.6
Northern	75	39	54.1	—13.5
Lake	90	32	53.6	—8.8
Moscow Industrial	77	34	52.3	—9
White Russia	39	29	33.6	—5.3
Ural	30	25	27.4	—9.4

The variations illustrated by the second table present a considerable interest. In the case of the black-soil zone the variation in the general index numbers and in the size of the cultivated area clearly shows that the two facts are correlated: on the whole, the area decreases with the decrease of the index number. The coefficient of the correlation between the two columns is: $r = +0.96$. The correlation is positive.

Thus our supposition is amply justified: without fear of falling into error we may affirm that in the black-soil zone the economic conditions were such that the decrease of labor and live stock was directly responsible for the decrease in the cultivated area.

In the less fertile regions the state of things was different. There the supplies of labor and live stock were greater, but at the same time there was a greater decrease in the cultivated area. The highest figures of the general index number correspond to the greatest decrease of the cultivated area; the amount of land under cultivation had diminished least in White Russia in spite of its being near the front and having a comparatively small supply of labor. The coefficient of the correlation for the less fertile part of the country is as follows: $r = -0.50$, that is, the correlation is negative.

It is evident that in the less fertile regions psychological con-

siderations and the state of the market had more influence upon the economic life of the people than the actual shortage of labor and live stock.

The dependence established above must not, however, be regarded as all-important. Decrease in labor and live stock undoubtedly had, during the first two years of war, a bad effect upon Russian agriculture and resulted, to begin with, in less land being cultivated. But peasant farming, in particular, was not radically affected by the difficulties of those two years and by the third year of the War the peasants accommodated themselves to the war conditions so thoroughly that, in spite of the increasing disorganization of transport and exchange, in many provinces they had in 1917 actually more land under plow than in 1916. This increase occurred not only in regions where the supplies of labor and live stock were fairly high, but also in the black-soil zone where they were low.

The Census of 1916 and that of 1917 enable us to compare data for twenty-six provinces; in fourteen of them (in the black-soil zone) the cultivated area (in peasant farms) increased by 4.5 per cent and in twelve (in the less fertile parts) by 2 per cent. It increased most of all in the Middle Volga region where the supplies of labor and live stock were rather low, and in the Central Agricultural region where they remained fairly high:

AREA UNDER CROPS IN 1917 AS COMPARED WITH 1916

Regions	(*percentage*)
Black-soil zone:	
Middle Volga	108.9
Central Agricultural	102.9
Lower Volga	100.0
Less fertile parts:	
Moscow Industrial	105.1
Lake	105.0

It should also be noted that individual regions do not occupy the same relative position each year so far as the size of their cultivated areas is concerned: in 1915 and 1916, while the general difference between the area under plow in the black-soil and the less fertile zones remained what it had been, several regions within each of these zones occupied in 1916 quite a different place in the scale from

what they had done in 1915. The same thing is observed when comparing the relative positions of regions in 1917 and 1916.

If regions are classified according to the amount of cultivated land owned by the large estates or the peasants, their relative position will again be different in different years.

The decrease in labor and live stock had dealt a decisive and probably irreparable blow to private estates and its disastrous consequences could not be mitigated either by the energy and initiative of the owners or by the rise in market prices. The result was a big and immediate reduction in the cultivated area of large estates as compared with peasants' land, especially in the black-soil zone. In other parts of Russia the effects of the War were less marked in this respect. The following figures are an illustration of this regress:

CHANGES IN CULTIVATED AREA

	From 1914 to 1915 according to the Central Statistical Committee		*From 1916 to 1917 according to the Agricultural Censuses*	
Parts of Russia	*Private estates*	*Peasant land*	*Private estates*[18]	*Peasant land*[19]
	(*percentage*)			
Black-soil zone	—57.9	+27.0	—14.7	+4.5
Less fertile parts	—45.9	—2.3	—3.2	+2.0

The fact that the changes in cultivated area do not coincide with the changes in the supply of labor and live stock clearly proves that the reduction of cultivated area was not entirely due to a physical impossibility of maintaining production at the pre-war level, which would, indeed, have been a sign that the country's agricultural resources were being impaired. But from what has been said we already know the highly complex character of the circumstances which prevented Russian agriculture from remaining at its normal level and the important part played by the social and the psychological factors. From 1914 to 1917 these were unfavorable to agriculture; later on they might well have worked in a different direction and, indeed, they showed a tendency to do so in spite of the War.

In any case the severity of the blow dealt by the War to Russian agriculture cannot be estimated from the changes in the cultivated

[18] In eight and seven provinces.

[19] In fourteen and twelve provinces.

area alone. All that has so far been said leads one to believe that the blow was certainly not overwhelming and that, by the end of the War, the condition of agriculture was not such as necessarily to involve a further decrease in production.

Changes in Character of Crops.

Russian agricultural produce had deteriorated both in quantity and in quality after the outbreak of the War.

It is a well-known fact that when agriculture develops normally, there is comparatively less cereals grown and a larger proportion of beet, turnips, potatoes, fodder crops, sunflowers, maize, and of the plants used in industry. This is precisely what had been happening in Russia before the War. Crops needed for home consumption were giving way to crops that had a market value and those of less value were being replaced by those of greater value.

The War changed the situation for the worse. On the one hand we find an unquestionable regression in the general distribution of the various kinds of crops.

DISTRIBUTION OF THE MAIN CROPS IN FIFTY-FIVE PROVINCES OF EUROPEAN AND ASIATIC RUSSIA[20]

Crops	*1914*	*1915*	*1916*	*1917*[21]
		(*percentage*)		
Cereals	89.6	90.1	90.0	91.3
Root crops and plants used in industry	6.4	6.1	5.8	6.0
Sunflower and maize	2.5	2.4	3.1	1.5
Leguminous plants	1.5	1.4	1.1	1.2
	100.0	100.0	100.0	100.0

The above figures show that toward the end of the War comparatively more cereals were grown, while the area under other crops, especially under root crops and those used in industry,

[20] Including forty-three provinces in European Russia, four in Cis-Caucasia, four in central Asia, and four in Siberia. The following crops have been taken into consideration: I. Cereals: rye, wheat, barley, oats, millet, buckwheat; II. Roots and plants used in industry: sugar beet, potatoes, flax, hemp, tobacco; III. Maize and sunflowers; IV. Leguminous: peas, lentils, beans. The figures for 1914 and 1915 are given by the Central Statistical Committee and for 1916 and 1917 by the two agricultural censuses.

[21] For forty-six provinces of European Russia, central Asia, and Siberia.

gradually diminished. The relative increase in the production of cereals seemed to be particularly marked in the case of private estates. On the other hand if we consider the crops grown we shall find that those which represent the highest degree of agricultural technique distinctly tend to decrease. This can be seen from the following table:

CHANGES IN CULTIVATED AREA IN 1915 AND 1916 AS COMPARED WITH 1914[22]

Crops	*1914*	*1915* (*percentage*)	*1916*
Rye	100	100.4	96.7
Winter wheat	100	100.2	94.1
Summer wheat	100	94.5	79.4
Wheat (total)	100	95.9	83.3
Barley	100	98.6	92.4
Oats	100	97.0	96.7
Millet	100	97.6	90.9
Buckwheat	100	91.8	90.9
Spelt	100	104.2	107.8
Peas	100	86.6	64.3
Lentils and beans	100	96.8	78.0

The area under wheat and barley, which used to be largely cultivated for the market, decreased during the War to a much greater extent than the area under rye, which was needed chiefly for home consumption and was less valuable. As to leguminous plants, peas and lentils, which were of high market value, suffered most.

In 1917 the production of root crops and other valuable plants, which had up till then remained at pre-war level, began to decrease. Thus the area sown by the peasants with sugar beet, which requires a great deal of labor, was reduced by 19.8 per cent in thirty-three provinces of European Russia; and the area under potatoes, which demand less labor, was reduced by 5.4 per cent. The area under annual fodder crops, which involve a higher agricultural technique than the perennial fodders, decreased by 2.6 per cent, while the cultivation of the latter increased by 6.9 per cent. The same thing happened on large estates.

None of these signs of the qualitative deterioration of Russian

[22] *Urozhai hlebov v 1916 godu* (*The Crops in 1916*), published by the Special Council for Food Supply, p. xvi.

agriculture during the War need, however, have given cause for anxiety; in any case, just like the decrease in the cultivated area, they furnished no proof of a decline in the productive resources of the country.

It must be remembered in the first place that the change just indicated was, on the whole, inconsiderable. Secondly, we must regard it as a perfectly natural and by no means disquieting reaction to the war conditions. It was to be expected that the shortage of labor and decrease in live and dead stock should lead to a deterioration in agricultural technique. The marked decrease in valuable crops as compared with the less valuable was largely due to the fact that export practically ceased and that the army, which took in a sense the place of the foreign market, could naturally have no big demand for them.[23] But the chief reason why the change indicated cannot be said to have been really alarming is that it was accompanied by other and utterly different developments in Russian agriculture.

Here are some data concerning the change in the relative areas under different crops in the chief territorial subdivisions of the Russian Empire.

DISTRIBUTION OF CULTIVATED AREA BETWEEN THE DIFFERENT CROPS

Parts of Russia	*Cereals*				*Root crops and plants used in industry*			
	1914	*1915*	*1916*	*1917*	*1914*	*1915*	*1916*	*1917*
	(percentage of total cultivated area)							
European Russia	88.9	89.1	89.2	90.6	7.1	7.0	6.6	6.4
North Caucasus	89.6	90.0	87.0	...	2.2	1.6	1.5	..
Steppe Region	94.6	97.4	98.0	98.1	2.9	2.1	1.3	1.1
Western Siberia	95.2	96.1	96.0	96.0	4.3	3.4	3.2	3.7
	Sunflower and maize				*Leguminous*			
	(percentage of total cultivated area)							
European Russia	2.2	2.2	2.8	1.7	1.8	1.7	1.1	1.3
North Caucasus	8.1	8.4	11.4	..	0.1	..	0.1	..
Steppe Region	0.4	0.3	0.7	0.8	0.4	0.3	..	..
Western Siberia	..	..	0.4	..	0.5	0.5	0.8	0.3

[23] It is significant that in the less fertile parts of Russia, where wheat and barley are grown for home consumption and not for export, as in the black-soil regions, their production decreased far less and, indeed, actually increased in places.

We see that the return to more primitive methods of agriculture was not universal and that in the northern Caucasus, for instance, between 1914 and 1916 there was a marked development of intensive methods, involving a considerable decrease in grain production and an even greater increase in the cultivation of maize and sunflowers, particularly the latter. And even where there had been a return to less intensive methods of agriculture, there was no uniformity about it: it was more marked in European Russia and in the Steppe Region, while in the Siberian provinces it was relatively insignificant.

The development of Russian agriculture during the War exhibited many conflicting tendencies; a good illustration of this is provided by the changes in the cultivation of root crops and of plants used in industry. Two circumstances deserve attention: on the one hand we find that the less valuable crops of this variety decreased most, so that the general decrease in the area under them was compensated by the better quality of the crops grown. Consider the following figures for fifty-five provinces.

CHANGES IN AREA OF VARIOUS CROPS[24]

Crops	*1914*	*1915*	*1916*
Sugar beet	100	98.5	98.5
Potatoes	100	95.9	91.2
Flax	100	83.6	104.3
Hemp	100	95.6	90.9
Tobacco	100	110.6	106.4
Sunflower	100	91.1	115.5
Maize	100	100.5	106.6

The respective areas, of course, varied considerably from year to year, but speaking generally there was a distinct tendency to cultivate sugar beet at the expense of the less valuable root crops; to grow flax and tobacco in the place of hemp, the cultivation of which had indeed been on the decline before the War; and to replace the comparatively cheap maize by the highly valuable sunflower.

[24] The figures for sugar beet and tobacco are taken from the returns of the Excise Board (*Aktsiznoe Upravlenie*), and for potatoes from those of the Central Statistical Committee. As to flax, hemp, sunflower, and maize, the data upon which the calculation of percentages is based are not quite comparable: for 1914 and 1915 they are furnished by the Department of Agriculture and for 1916 by the Agricultural Census of that year.

On the other hand it should be noted that in the case of each particular kind of crop we do not find that the cultivation of it declined uniformly; there were local differences and fluctuations from year to year which prove the inherent vitality of Russian agriculture. In view of the importance of these circumstances it is worth while to consider in detail the cultivation of textile and oil-producing plants, root crops, and tobacco.

Hemp, Flax, Cotton.

We already know that the plant which had suffered most was hemp. But although its cultivation was on the whole decreasing, it actually increased in three regions—in the Central Agricultural, Moscow Industrial, and the Lake region. The cultivation of other textile plants, in spite of a few setbacks was, on the whole, making good progress. The area under flax[25] decreased in 1915 from 966,000 deciatines to 937,000 deciatines, but in 1916 it increased again and reached a maximum of 1,169,200 deciatines. Of the twenty-six provinces where a great deal of flax had been grown for textile purposes, the cultivation of it steadily decreased in four only; with these may be classed another four in which the area under flax had increased in 1915, but in 1916 fell below pre-war level. In all the remaining provinces the production increased and in nine—Archangel, Vologda, Mogilev, Tver, Yaroslavl, Vyatka, Novgorod, Tomsk, and Tobolsk—the progress was uninterrupted.

The position was still more favorable with regard to cotton.[26] In 1914, the area under cotton in the Russian Empire was 621,900 deciatines; in 1915 it increased to 787,000 deciatines, and in 1916 to 791,500 deciatines. In central Asia there was a steady increase in the amount of cotton grown and even in Trans-Caucasia by the end of the War there was more of it grown than in 1914.

[25] See *Reports* (*Trudi*) of the Committee for Investigating the High Cost of Living, Vols. II and IV, Moscow, 1915; also articles by Chayanov; also Stanchinsky, *Luyanoe delo* (*The Flax Industry*), in *Narodnoe Khozyaistvo v 1916 godu* (*National Economy in 1916*), Vol. I, Petrograd, 1919.

[26] See Gan, *Khlopok i khlopchatobumazhnaya promishlennost* (*Cotton and Cotton Industry*), in *Narodnoe Khozyaistvo v 1916 godu* (*National Economy in 1916*), Vol. I, Petrograd, 1919.

Seed Flax and Sunflower.

The materials available on oil-producing plants enable us to touch upon two of them only: seed flax and sunflowers. The production of seed flax suffered terribly during the War. The following table illustrates the changes that took place:

AREA UNDER SEED FLAX

Parts of Russia	*1914*	*1916*	*Decrease*
	(in deciatines)		*(percentage)*
European Russia	405,000	195,900	51.7
Caucasus	74,700	26,200	65.0
Asiatic Russia	63,300	35,300	44.3

And yet even here the decline was not uniform. According to the Census of 1916 there had been an increase in the cultivation of seed flax in five provinces (Orel, Kiev, Ekaterinoslav, Astrakhan, and the Don Territory) out of the twenty-five provinces of European Russia in which seed flax had been largely cultivated.

The cultivation of sunflower, on the contrary, rapidly increased during the War. Statistics show that before the War sunflowers were grown only in seventeen provinces of European and Asiatic Russia and that in 1914 the area under them was 894,100 deciatines, or 882,700 deciatines if we exclude the Semirechensky territory. According to the Census of 1916 sunflowers were cultivated in thirty-eight provinces and the area under them was estimated at 1,032,200 deciatines, or at 925,800 deciatines omitting the Semirechensky territory. The increase, of course, was not uniform; in the provinces of Tambov, Voronezh, Saratov, Penza, and Turgaisk there was a decline in production, but, on the whole, remarkable progress had been made. It is interesting that it continued even in 1917; sunflowers were one of the few plants used for industrial purposes the cultivation of which increased, instead of diminishing, during that year.

Sugar Beet.

As has already been said, the War had a particularly adverse effect upon root crops. Yet even here a few favorable symptoms may be detected. We will quote the statistics for sugar beet, the cultivation of which was of great importance to the country.

AREA UNDER SUGAR BEET[27]

Provinces	*1914*	*1915* (*in deciatines*)	*1916*
Kiev	201,800	188,000	201,100
Podolsk	160,100	139,100	131,500
Kursk	92,100	100,900	94,300
Kharkov	86,700	77,300	74,300
Volhynia	36,100	35,800	28,500
Chernigov	33,500	34,900	38,700
Poltava	31,600	34,000	35,700
Voronezh	17,300	17,800	17,000
Tambov	12,600	13,100	13,800
Kherson	15,000	17,000	20,800
Orel	4,100	4,400	5,500
Tula	3,400	3,600	4,600
Kuban	3,500	4,000	4,200
Bessarabia	1,500	300	.....
Total	699,300	670,200[28]	670,000

Since the data for Poland and the province of Kholm are not included in the totals for the last two years, it may be said that the area under sugar beet hardly changed at all. It was only in provinces near the front that there was a marked decrease in cultivation; in most of the home provinces more sugar beet was grown. The decrease was observed solely on planters' estates; sugar refineries did their utmost to grow more beet of their own and succeeded in increasing production by 24.7 per cent as compared with 1914. If, in addition to this, we bear in mind that in 1916, according to the census of that year, sugar beet was grown in four provinces where it had never been cultivated before the War, it will be clear that the position with regard to this crop was far from unfavorable.

Potatoes and Tobacco.

Potato crops considerably decreased during the War, though this, too, was not a simple case of uniform regression.[29] In Euro-

[27] See *Statistics of Agriculture of Russia and of Some Foreign Countries*, 1917; also *Bulletin* (*Izvestia*) of the Special Council for Food Supply, 1916, No. 28.

[28] The areas cultivated in Poland and Kholm are included in the totals for 1914 only.

[29] Comparison of the figures given by the Central Statistical Committee

pean Russia a steady fall in the cultivation of potatoes was marked in six regions out of twelve; the Central Agricultural, Middle Volga, Little Russia, Lower Volga, Ural, and the Baltic. In the Southwestern and the Northern regions, in the Lake region and White Russia, potato crops diminished in 1915, but increased again in 1916 and in the Southwestern and Lake regions actually exceeded pre-war level. In the Moscow Industrial and Southern regions the area under potatoes increased both in 1915 and in 1916. This is all the more significant because the cultivation of potatoes during the War was hindered, in addition to other unfavorable circumstances, by the fact that there was practically no distillation, while in peace time 12.8 per cent of all the potatoes produced in the country were distilled.[30]

As to tobacco, it is sufficient to say that throughout the Empire (including Turkestan, but excluding the provinces occupied by the enemy) more and more of it was grown and the increase was entirely in the more valuable brands of tobacco. In the three years 1914–1916 the cheaper brands occupied 28,800, 28,500, and 26,700 deciatines respectively, and the more valuable brands, 39,600, 39,000, and 42,400 deciatines.[31]

General Observations on the Changes in Crops.

The cultivation of valuable crops then, though beset with great difficulties, showed good promise and varied greatly from place to place. The signs of improvement that we have commented upon do not lose their significance because in 1917 they practically disappear; together with other characteristic circumstances, already referred to, they prove that it would be a mistake to explain the decline of agriculture during the War by an absence of desire to im-

with those of the Census for 1916 shows that the area under potatoes had decreased by 29 per cent throughout the Empire (not counting Turkestan and the provinces occupied by the enemy). These figures, however, are not altogether comparable. There is reason to suppose that the Census underestimates the area under potatoes, which was some 10 per cent larger than therein stated.

[30] Brutzkus, *Ekonomya selskavo khozyaistva* (*Economics of Agriculture*), Berlin, 1923, p. 147.

[31] Data of the Excise Board published in *Statisticheski sbornik za 1913–1917 godi* (*Statistical Returns for 1913–1917*), Vol. I, Moscow, 1921, pp. 64–66, 86.

prove the quality of the produce. They show that, serious as that decline was, it was to a great extent accidental, and must be regarded as a temporary setback chiefly due to external circumstances.

In the last resort the survey of the condition of Russian agriculture during the War leads to conclusions that entirely coincide with the expectation stated at the end of the last chapter. We find evidences of stagnation and decay, inevitable in the war conditions, but there was nothing catastrophic about them: Russian agriculture decreased in extent and deteriorated in quality, but its foundations remained unshaken and its powers of growth and improvement were unimpaired.

The state of Russian agriculture during the third year of the War is illustrated by a table in Appendix I summarizing data of the Census of 1916. It is enough to peruse the totals to be convinced that, in spite of all its trials, Russian agriculture in the third year of the War still remained one of the important factors in the economic life of the world.

Agricultural Industries: Sugar Refining.

The condition of agricultural industries during the War may be best judged by considering the state of the three most important, namely sugar refining, distilling, and butter making.

Sugar refining was carried on chiefly in the western and southwestern provinces and more than any other branch of industry suffered from its proximity to the theater of war. In the autumn of 1914 only 265 out of the 297 sugar refineries in the Empire were working, and of this number 241 were outside Poland.[32] In 1916 the Excise Board found that only 235 refineries were working and, in 1917, only 233. All the refineries that stopped work either fell into the hands of the enemy or were evacuated at the request of the military authorities. Some of the refineries had their plantations of sugar beet destroyed by the passage of troops, or suffered from contact with the army in other ways.

But setting on one side all these purely external effects of the War, it must be said that the position of the sugar industry during the War was perfectly sound.

[32] The total number of refineries situated outside Poland was 246.

On the average each refinery had the following area under sugar beet at its disposal:

AVERAGE AREA OF SUGAR BEET PLANTATIONS

Regions[33]	*1914*	*1915*	*1916*	*1917*
		(*in deciatines*)		
Southwestern and Southern	2,900	2,900	2,700	....
Central	2,700	3,100	3,200	....
Eastern	2,100	2,300	2,500	....
Average for fourteen provinces	2,500	2,900	2,900	2,600

The above table shows that, in spite of the decrease in the number of refineries, those that remained were able to secure for themselves sufficient quantities of raw material; they did so even in the troubled year 1917. This was particularly noticeable in regions that lay far from the front—the Central and the Eastern; in these the average area that a refinery had under sugar beet rose by 18 or 19 per cent in 1916. It is true, however, that the fields were far worse cultivated during the last years of war, to judge by the proportion of crops that perished.[34]

The sugar industry was in a favorable position, too, so far as supplies of labor were concerned.

In 1915 when the whole of the Russian industry was suffering from an acute labor shortage, the total number of workers in sugar refineries had only been reduced by 88 men and in the Eastern region had actually increased by 3 per cent. In 1916 the number of workers had considerably increased in all the regions and there are indications that this process continued in 1917: the average number of workers in a refinery rose from 438 to 479 persons; the total

[33] The Southwestern and Southern region consisted of the following provinces: Volhynia, Kiev, Podolsk, Kherson, and Bessarabia; the Central region included the Kursk, Poltava, Kharkov, and Chernigov; the Eastern region—the provinces of Voronezh, Orel, Tambov, Tula, and the Kuban territory; see *Statisticheski sbornik za 1913–1917 godi* (*Statistical Returns for 1913–1917*), I, 44, 45, 81; also *Materyali k otchetu o sostoyanii promishlennosti Ukraini v 1921 godu* (*Industries of Ukraine in 1921*), published by the Ukrainian Council for National Economy, 1921, pp. 141–145; also *Narodnoe khozyaistvo v 1916 godu* (*National Economy in 1916*), Vol. VII, Petrograd, 1920.

[34] Viz.: 2.4 per cent, 1.5 per cent, 2.7 per cent, and 3.7 per cent in the years 1914–1917 respectively.

number of workers in fourteen provinces rose to 112,700, having increased by 6.8 per cent as compared with 1914.

AVERAGE NUMBER OF WORKERS PER REFINERY

Regions	*All workers*			*Male workers*		
	1914	*1915*	*1916*	*1914*	*1915*	*1916*
Southwestern and Southern	453	449	493	378	373	386
Central	414	414	453	336	334	350
Eastern	431	444	451	348	367	332
Average for fourteen provinces	438	438	479	362	362	370
Total number of workers employed	105,548	105,460	112,670	87,179	86,710	87,025

On its technical side the sugar industry showed no signs of deterioration. In all the regions in 1915 and 1916 the refineries were urgently repaired and fresh stocks of fuel and materials accumulated in many instances; steps were taken to improve and increase production instead of merely maintaining it at the normal level.

The figures relating to the production of sugar during the War were in no way exceptional or calculated to give the least ground for anxiety.

PRODUCTION OF SUGAR

Regions	*Total output*				*Output per refinery*			
	1914	*1915*	*1916*	*1917*	*1914*	*1915*	*1916*	*1917*
	(in thousands of puds)							
Southwestern and Southern	52,141	66,478	45,654	....	355	455	325	...
Central	35,264	44,492	41,141	....	461	578	541	...
Eastern	4,668	5,579	4,894	....	259	310	270	...
For the whole area	92,073	116,549	91,689	72,645	378	484	390	312

It was not until 1917 that production fell considerably below the pre-war level. Indeed, 1915 was a record year; the amount of sugar produced then had not been equaled in Russia since 1912. In 1916 the production greatly decreased, though it still remained at the

level of 1914; the decrease assumed significant proportions in the Southwestern region only.

All this proves that in so far as the sugar industry was not directly affected by events at the front it remained in an essentially healthy condition, and that the refiners were able to overcome the difficulties created by the War in so far as they were not hindered by military or revolutionary interference.

Distilling.

An overwhelming blow was dealt to the distilling industry by the prohibition of alcoholic liquor. The law of August 29, 1914, forbidding the sale of spirits, wine, and vodka compounds until the end of the War, deprived the distillers of their chief consumer—the State, which had the monopoly of the liquor trade and used to buy some 80 per cent of all the alcohol produced. Government measures that followed the prohibition reduced to the narrowest possible limits the sales of alcoholic liquor in the open market. Finally, the law of September 29, 1916, entirely prohibited the distillation of spirits during the ensuing year. Disasters at the front also had a serious effect upon the distilling industry. The occupation of the Polish provinces alone deprived Russia of 421 distilleries, out of the total number of 3,019. Besides, a great number of distilleries in the Russian provinces near the front had fallen into the hands of the enemy or been evacuated and made unfit for use.

As a consequence the distilling industry gradually died down during the War. In 1914, the number of distilleries and breweries in operation was 2,598; in 1915 it fell to 2,326 and 1916 to 681. The amount of spirit distilled fell from 124 million vedros[35] first to 55 million vedros and then to 10 million vedros. There was not a single region in 1916 where more than 10 or 12 per cent of the pre-war average was produced. In western and southern provinces near the front not more than 2 to 9 per cent of the existing distilleries were at work in 1916 and the amount of spirit distilled was only from 0.5 per cent to 5 per cent of what it had been in 1914.[36]

[35] One vedro = 2.7 gallons.

[36] *Statisticheski sbornik za 1914–1917 godi* (*Statistical Returns for 1914–1917*), Vol. I, Moscow, 1921, pp. 46–49, 83; also *Narodnoe Khozyaistvo v 1916 godu* (*National Economy in 1916*), Vol. I, Petrograd, 1920.

These figures make the situation so clear that there is no need to go into details. It may be observed that the distilling industry came to an end less rapidly than might have been expected in the circumstances. Both in 1915 and 1916 distinctly more spirit was distilled than could have been sold in the open market or to the State. The owners strove, as it were, by inertia to retain their former position, in the hope that the War would soon be over and they would reap high profits when the situation once more became normal. At the same time that the distilling industry was dying down there was a marked increase in the export of spirit and vodka compounds, although at the beginning of the War such export had fallen very low. Exports, in millions of *gradus*,[37] were as follows: 259 in 1913; 127 in 1914; 89 in 1915; and 154 in 1916.

There was, moreover, a tendency to replace distillation by the manufacture of yeast. The following figures indicate the change in the output of the yeast factories.

PRODUCTION OF YEAST

Years	*Number of factories*	*Quantity produced (in thousands of puds)*
1913	9	34,447
1914	8	36,210
1915	10	37,918
1916	13	41,362

The above facts had but little practical importance, but they are interesting as evidence of the distillers' initiative and as tending to show that the suspension of the activities of the distilling industry during the War was very different from a real extinction due to internal causes.

Butter Making.

The state of this industry is illustrated in the first place by the figures relating to the butter sent from western Siberia to European Russia.[38]

[37] One *gradus* = $\frac{1}{100}$ vedro (2.7 gallons) of pure alcohol.

[38] Malyarevsky, *Svedenya o Soyuze Sibirskikh Maslodelnikh Artelei* (*The Work of the Butter-making Associations of Siberia*), 1918, p. 11.

BUTTER SENT FROM SIBERIA TO EUROPEAN RUSSIA

Years	*Quantity (in puds)*
Annual average for 1909–1913	4,248,301
Annual average for 1914–1917	4,082,252
1914	3,680,159
1915	5,166,000
1916	3,555,328
1917	3,948,520

We see that the amount of butter sent from Siberia to European Russia (which almost equaled the amount produced there for the market) was less during the War than during the five years preceding it, but that the decrease was slight and remained stationary, which is particularly significant. After falling considerably in 1914, as a result of the panic caused by the declaration of war, in 1915 the trade in Siberian butter reached a higher level than ever. In 1916 there was again a great decrease, but in 1917 it rose to a figure which had only been exceeded in the three years that had immediately preceded the War.

Meager as these data are, they seem to show that the condition of the butter-making industry during the War was far from critical and that even if production did, to some extent, decrease, this was not due to any inherent weakness of the industry. The fact was that war conditions were anything but favorable to its steady progress, especially in western Siberia, which was the chief butter-making district in the Empire.

Three-quarters of the butter made in Siberia used to be exported, and when the frontiers were closed the creameries proved to be much in the same position as the distilleries after the prohibition of liquor. Besides, owing to the long distances between big cities, Siberian butter making was seriously affected by the disorganization of transport, which gave rise to difficulties almost fantastic in their absurdity; shortage of packing and other materials was also a great handicap. Finally, in 1915 much harm was done to the industry by the vacillations of the food control policy, forbidding and then, again, allowing the export of butter from Siberia. The only thing that saved butter making in Siberia was that the Army Supply Department began to buy butter for the army; at first it placed definite orders, or made requisitions for the amounts re-

quired and, at the end of 1915, declared butter a government monopoly. It must be borne in mind, however, that this was not advantageous to the industry, for the fixed prices at which the Army Supply Department purchased butter were as a rule below market prices.

In European Russia butter making was not beset with the same difficulties, but its position was not wholly favorable either: it is enough to mention the shortage of skilled workmen, the difficulty of obtaining raw materials, the disorganization of transport. In addition to all this the northern provinces suffered from the bad harvest of 1914, when a great number of cattle had been sold.

In these circumstances the figures show that the butter-making industry was, as a matter of fact, a very stable one. It would be no exaggeration to say that this—chiefly peasant—industry was no worse off during the War than the capitalistic sugar industry.

Effect of the War on Agricultural Industries.

It is clear from what has so far been said that on the whole agricultural industries remained essentially unchanged, in spite of the exceptionally trying conditions in which they have been placed during the War. What decline there was was entirely due to non-economic causes of a coercive character. So far as the purely economic consequences of the disorganization due to war were concerned, sugar refiners, distillers, and butter makers were able to hold their own in the face of every difficulty.

It does not seem likely that the case was substantially different as regards agricultural industries of secondary importance, concerning which no statistical data are available. The information about them that one comes across in the press confirms this impression.

We should not, therefore, be far wrong if we extended the conclusions just formulated to agricultural industries as a whole.

Agricultural industries certainly suffered from the War, but, as a rule, their deterioration was the result not of the general economic situation created by the War, but of outside factors of a non-economic character. So far as the natural adaptation of agricultural industries to war-time circumstances was concerned, all went well, and the changes for the worse, if any, were within the normal limits of fluctuations observable in the economic life of the

country as a whole. By the end of the War agricultural industries were not so undermined as to exclude the possibility of immediate recovery as soon as peace should be restored.

In other words, we shall hardly be mistaken in saying that although the development of agricultural industries during the War differed externally from the development of agriculture and of cattle breeding, it was essentially the same and the same comparatively favorable conclusions may be drawn with regard to it.

CHAPTER VII

STOCK BREEDING DURING THE WAR

General Changes.

THREE circumstances characterize stock breeding in Russia during the War.

1. The actual number of live stock fluctuated, but, on the whole, it tended to increase. Taking the number of horses, cattle, sheep, goats, and pigs in 1914 as equal to a hundred, we obtain the following index numbers for the subsequent years (for sixty-eight provinces of European and Asiatic Russia): 98.5 for 1915, 141.7 for 1916, and 136.7 or 140.3 for 1917.[1]

2. The relative importance of the different branches of stock breeding had changed; more sheep, goats, and pigs were bred and comparatively fewer horses and cattle. This can be seen from the following table:

PROPORTION OF ANIMALS

Kinds of animals	*1914*	*1915*	*1916*	*1917*[2]
		(*percentage*)		
Horses	21.5	21.0	16.9	16.8
Cattle	30.3	29.8	27.3	26.7
Goats and sheep	39.2	39.8	45.0	44.9
Pigs	9.0	9.4	10.8	11.6

3. Predominance of young animals. It is sufficient to point out that in 1912 the relation of horses under four years to full grown

[1] Statistics relating to each of the three years of war are available for all these provinces. For 1914 and 1915 the figures given by the Veterinary Department, and for 1916 and 1917 those given in the agricultural censuses, are used as a basis for calculation. But since the figures of the last census have not all been published and are inadequate, the data for 1917 have been arrived at as follows: the smaller coefficient was determined on the basis of the general totals of the census in fifty-two provinces and the larger is based upon data about peasant property in forty-one provinces of European Russia, with regard to which the census is perfectly reliable. It must be borne in mind that lack of materials makes the study of stock breeding even more difficult than that of agriculture.

[2] From the data given by the Veterinary Department and the Agricultural Censuses of 1916 and 1917.

horses was on the average 33.7 per cent[3] throughout the Empire, but in 1916 it averaged 43.1 per cent, and that before the War other full grown animals formed 57 per cent of the total number, while in 1916 the percentage fell to 52 per cent.[4]

These facts prove that stock breeding, no less than agriculture, was hard hit by the War and that the supply of animals changed quite as much both in quality and quantity as did agricultural produce. What then was the meaning of the changes that took place and to what extent may they be directly ascribed to the War? To answer this question we must turn from stock breeding as a whole to particular branches of it, and consider the changes that took place in each.

Horses.

Let us begin with horse breeding. The table quoted below shows that it had been seriously affected by the mobilization and requisitions:

NUMBER OF HORSES FOUR YEARS OLD AND OVER.[5]

	Absolute numbers			*Index numbers (1914 = 100)*		
Parts of Russia	*1914*	*1915*	*1916*	*1915*	*1916*	
European Russia (forty-five provinces)	16,377,400	15,219,900	16,252,200	92.9	99.2	(100.3)
Cis-Caucasia	1,265,200	1,202,400	1,223,000	95.0	96.7	(105.3)
Trans-Caucasia	231,800	172,200	141,900	74.3	61.2	(66.7)
Siberia	3,529,200	3,452,500	3,792,800	97.9	107.5	(101.9)
Steppe region	1,372,100	1,342,700	1,608,500	97.8	117.2	(101.9)
Total for sixty-eight provinces	22,775,700	21,389,700	23,018,400	93.9	101.1	(100.8)

[3] In fifty-two provinces.

[4] *Voenno-konskaya perepis 1912 goda* (*Army-horse Census of 1912*), St. Petersburg, 1913. The most important data of that census are reprinted in *Selskoe khozyaistvo Rossii v XX veke* (*Russian Agriculture in the Twentieth Century*), published by *Narkomzem* (Department of Agriculture), Moscow, 1923, pp. 207–215.

[5] As in all other tables the data for 1914 and 1915 are those of the Veterinary Department and for 1916 those of the agricultural census. Since the two sets of figures are not quite comparable we put in parentheses the results of our attempt to arrive at the true figures. In our estimate we

In 1915 the number of horses over four years old falls to 94 per cent of the pre-war number. Then it begins to increase again and even slightly exceeds the level of 1914. It must be borne in mind that before the War the total number of horses increased every year by 2 to 3 per cent and that under normal conditions the number of horses in 1917 should have exceeded their number in 1914 by at least 6 to 7 per cent; the table proves, therefore, that horse breeding was passing through a crisis.

A geographical analysis clearly shows the depressing influence of the War upon horse breeding. In considering the different parts of the Empire we cannot fail to notice the uniform increase in the number of cart horses. It did not exceed 0.3 to 1.9 per cent anywhere except in northern Caucasus; there oxen had been largely used for agricultural purposes and when a large number of them were taken for the army, special measures had to be adopted to replace them by horses. There was not much difference in this respect between European Russia and the Steppe region and Siberia, where the conditions were not at all the same. It was as though some external force had determined that the number of horses was not to exceed a certain limit and ruthlessly wiped out any inordinate increase.

When we pass on to consider small territorial units, we clearly see that even this slight and uniform increase was not easily attained during the War.

Increase in the number of cart horses took place only in five out of twelve[6] regions of European Russia, under circumstances that were exceptionally favorable. Little Russia and the Lower Volga region had, like the northern Caucasus, to do their utmost to repair the damage caused by the requisition of oxen used for agricultural purposes; in the Central Agricultural and the Ural regions horses had always been bred for sale, so that it was possible to re-

started with the assumption that in 1914 the Veterinary Department was in error to the same extent as in 1912, when its figures failed to coincide with those of the army-horse census conducted on the same principles as the agricultural census of 1916. For each region we calculated the coefficient of the difference between the figures of the army-horse census and those of the Veterinary Department and then divided the numbers for 1916 by those coefficients. The results, as probably the nearest approximation to the truth, are given in brackets.

[6] See Appendix II.

place those that had been requisitioned; in the Northern region the increase was apparently due to horses being brought from other parts of the country in connection with the building of the Murmansk railway and with other circumstances, in consequence of which exceptionally lively trade was done there during the War. But in other regions, where circumstances were not particularly favorable and did not call for special efforts to counteract the effects of mobilization, that is, in most of European Russia, and especially in her less fertile parts, the countryside had much smaller supplies of horses in 1915 and 1916 than before the War.

A similar state of things prevailed in Asiatic Russia, but lack of space prevents us from giving the corresponding figures. There, too, in certain localities, the number of horses grew considerably, while in most regions it decreased, and on the average there was a small general increase; and strenuous efforts or exceptionally happy circumstances were required to keep up the number.

But although the War brought about a shortage of cart horses it encouraged horse breeding. Farmers were naturally anxious to secure for themselves a sufficient supply of horses and there was a vast increase in the number of young animals.

NUMBER OF HORSES UNDER FOUR YEARS[7]

	Absolute numbers			*Index numbers (1914 = 100)*		
Parts of Russia	*1914*	*1915*	*1916*	*1915*	*1916*	
European Russia (forty-five provinces)	4,256,100	4,051,600	6,177,700	95.2	145.1	(133.2)
Cis-Caucasia	399,700	410,000	523,100	102.6	130.9	(133.3)
Trans-Caucasia	131,000	108,900	58,900	83.1	45.0	(45.8)
Siberia	1,310,700	1,376,200	1,779,000	105.0	135.7	(120.8)
Steppe region	743,600	1,009,800	1,256,300	135.8	168.9	(231.1)
Total for sixty-eight provinces	6,841,100	6,956,500	9,795,000	101.7	143.2	(141.9)

The above figures show that the number of young horses began to increase in 1915; that in European Russia, where there had been a bad harvest and bad hay season in 1914, this happened a year

[7] See p. 169, n. 5.

later; in 1916 the numbers were growing rapidly throughout Russia, except Trans-Caucasia which had suffered from its proximity to the Turkish front. The number of foals had reached 141.9 per cent of what it had been in times of peace. Siberia was comparatively little affected by army requisitions and was not able, owing to transport difficulties, to send horses for sale in European Russia, and there the number of young horses increased by 20 per cent. The Steppe region specialized in horse trading and there, in 1916, the number of foals was 2.3 times as great as it had been in 1914.

The fact that the process of recuperation really did go on at a rapid rate is proved, apart from all other considerations, by the implications of the figures quoted. The increase in the number of young horses is in direct relation to the need for replenishing the stock and to the absence of obstacles for doing so. For instance, in the less fertile parts of European Russia, where the requisition of horses had been very thorough and interfered both with agriculture and with the peasants' work as carriers, horse breeding progressed more rapidly than in the black-soil zone, and the stock was kept up more or less at its pre-war level. In the black-soil zone the increase in the number of young horses was fastest in districts where oxen had been used before the War for working in the fields, and where the peasants benefited more than elsewhere by the state of the market and other conditions brought about by the War.

In 1917, as a result of the failure of crops and of political upheavals, fewer horses were bred. In forty-one provinces of European Russia the number of foals on peasant property decreased by 9.8 per cent. On landowners' estates foals were perishing rapidly,[8] and on the whole by the end of 1917 there were left in Russia only 87 or 88 per cent of young horses, as compared with 1916. But the good results that had already been reached were not totally wiped out: in 1917 there were more foals than in 1914.

It was but natural that the total number of horses in the country should have increased. It is enough to add up the figures quoted

[8] According to the Census for 1917 in thirty-two provinces of European Russia the loss in young horses on large estates in that year was 23.4 per cent. And even before 1917 horse breeding on such estates had suffered more than in the villages. There is no direct evidence to prove this, but it is clear from the actual rules applied to the requisitioning of horses for the army. Peasants had more horses left per deciatine than the owners of large estates.

above and to calculate the percentages in order to see that in 1916 the number of horses in Russia was some 10 per cent higher than in 1914, and that even in 1917 it remained 6 or 7 per cent above pre-war level, that is, it was such as it probably would have been in that year had there been no war.

Here are the percentages for the various parts of the Empire:

CHANGES IN THE NUMBER OF HORSES

Parts of Russia	*1915*	*1916*[9]
	(*1914 = 100*)	
European Russia	93.4	107.6
Cis-Caucasia	96.8	112.2
Trans-Caucasia	77.5	59.1
Siberia	99.8	107.1
Steppe region	111.2	140.0
Average	95.9	110.3

It is evident of course that the abnormally high percentage of foals at the end of the War lowered the value of the stock for working purposes for the time being; but the future of the horse-breeding industry was all the more promising.

Cattle.

What has been said of horse breeding is also true of cattle breeding.[10]

The War had an unfavorable effect upon the numbers of full-grown cattle. Figures have already been given to show that in 1916 the ratio between the numbers of full-grown and young cattle fell to four-fifths of what it had been in times of peace. It had not attained the pre-war level in 1917, although on peasant land it had increased by about 1 per cent. It is impossible to say, owing to the lack of statistics, what the number of full-grown cattle was from year to year, but there is every reason to believe that it did not increase in the uniform way characteristic of normal times. It unquestionably fell in 1915, when according to the records of the Veterinary Department the total number of cattle throughout the

[9] Allowing for the inaccuracy of the Veterinary Department statistics.

[10] See Appendix III.

Empire decreased by 3.3 per cent, in European Russia by 6 per cent, and in some of the less fertile districts by 15 per cent. Between 1915 and 1916, to judge the figures quoted below, there was an increase, but it could not have been sufficient to make good the losses of 1915 and to bring up the stock to what it would have been after a normal two years' growth. Such a jump was physically impossible. Between 1916 and 1917 the numbers of full-grown cattle decreased again. In forty-one provinces the peasants lost 1,856,000 head, that is, 1.1 per cent of the quantity they possessed in 1916; in the whole of Russia, as it is after 1918, the loss amounted to 2.6 per cent according to the calculations of the Central Statistical Board.[11]

The different kinds of cattle were not affected by the requisitions in the same way. As can be seen from the table, bulls and oxen had suffered most, while the number of cows remained almost the same.

PEASANTS' CATTLE IN FORTY-ONE PROVINCES[12]

	Bulls and oxen		*Cows*	
Years	*Number of head*	*Decrease (percentage)*	*Number of head*	*Decrease (percentage)*
1916	2,376,200	..	15,163,600	..
1917	2,289,100	3.7	15,065,100	0.64

It could not have been otherwise, since cows were more or less protected from requisition and compulsory sales.

The War dealt a heavy blow to full-grown stock, but, at the same time, it encouraged cattle breeding. It would have been strange if, after the splendid harvest of 1915, the population had not attempted to make good the losses of 1914 and the spring of 1915. It was still more natural that they should have done so in 1916, when the harvest was exceptionally good and the peasants, through having plenty of cash, lived better than they had ever done before. An indirect, but perfectly clear confirmation of this is given by the following figures concerning the relation between full-grown and young cattle.

[11] Chelintsev, *Selskokhozyaistvennaya geografya Rossii* (*Agricultural Geography of Russia*), Prague, 1924, p. 149.

[12] *Selskoe khozyaistvo Rossii v XX veke* (*Russian Agriculture in the Twentieth Century*), pp. 223–239.

NUMBER OF HEIFERS, BULLOCKS, AND CALVES PER HUNDRED FULL-GROWN ANIMALS
(in twenty-eight provinces)

	Heifers and bullocks over one year old	*Calves*
According to zemstvo pre-war statistics	27.4	47.3
According to the census for 1916	29.1	64.6

The fact that the numbers in both columns had increased makes it clear that the recuperative process had begun already in 1915 and was in full swing by 1916. In 1917 it slowed down or even stopped altogether, but at any rate the number of beasts bred in the two previous years had not decreased.

After what has been said the figures given below with regard to cattle breeding as a whole will not appear surprising:

CATTLE

Parts of Russia	*Absolute numbers* 1914	1915	1916	*Index numbers (1914 = 100)* 1915	1916	*Number of cows per bull* 1916	*Number of calves per 100 cattle* 1916
European Russia (forty-five provinces)	29,101,700	27,247,200	36,755,400	93.6	126.3	42	87
Cis-Caucasia	2,766,800	2,851,900	3,259,400	103.1	117.8	16	100
Trans-Caucasia	2,442,100	2,252,800	1,965,300	92.5	80.5	11	57
Siberia	6,541,400	6,735,500	8,728,000	103.0	138.4	18	92
Steppe region	2,799,300	3,016,200	3,806,900	107.7	136.0	14	103
Total for sixty-eight provinces	43,651,300	42,103,600	54,515,000	96.5	124.9	28	89

We see then that by the third year of the War the total number of cattle in the Empire had increased by at least one-fifth. Such an increase was certainly remarkable. Before the War the average increase of cattle in every three years did not exceed 3 per cent.

As to qualitative changes brought about by the War, they may be gathered from the relative numbers of cows and bulls, as given in the table above. On the average in 1916 there was one bull to every 28 cows, while in different localities this ratio fluctuated between 1:11 and 1:42. To maintain a herd it is enough that there should be one bull to every 60 cows and 20 calves to every 100 cat-

tle; these quantities are only exceeded when cattle are bred for meat. The above figures, therefore, prove two facts. On the one hand they show that cattle breeding had in a sense deteriorated, having increased in quantity for the sake of producing meat, instead of keeping up the quality required for dairy farming. On the other hand they make it clear that cattle breeding could at any moment resume its pre-war character, or, indeed, any form demanded by the market and other social conditions. As the result of the anxiety to make good the loss due to army requisitions, so much stock had been accumulated that the owners were perfectly able at the conclusion of peace both to keep up the numbers and to improve the quality of the stock. Thus we find that in this respect the position was the same as with horse breeding, and the only difference, if any, was that in the case of cattle breeding the conditions were more favorable.

The survey of the situation at the end of the War in European Russia, where cattle breeding was not in a particularly flourishing condition, shows more clearly than anything what progress had been made and what possibilities of still further development, both quantitative and qualitative, lay before the industry.

Without going into a detailed analysis of the data for the different regions given in Appendix III, we may note that there were plenty of bulls and calves. Only in four regions out of twelve was the number of bulls insufficient, but probably the shortage was not felt, for the peasants often made use of bullocks under two years for breeding. In six regions there were from one and one-half to three times more bulls than was necessary. There is not a single region where the number of young cattle is not three times as great as is necessary to maintain the normal size of the herd; even in the less fertile parts, where dairy farming was strongly developed and the number of calves had to be restricted, there were in half the regions 80 young animals to every 100 full-grown beasts. In black-soil provinces the ratio was much higher; in the Central Agricultural and Southern regions it was as much as 91:100, in the Volga region it was 100 and 103 and so on.

Sheep, Pigs, and Goats.

The War did not directly affect the breeding of sheep, pigs, and goats, which were subject neither to requisitions nor to compulsory

sales. The economic conditions created by the War were extremely favorable, since shortage of beef caused an exceptional demand for pork and mutton in the open market. The need for pork and mutton fat, for sheep's wool and goat's hair, for sheepskins and hides, had also increased beyond all comparison with peace-time. On the other hand the rise in the peasants' standard of living meant, in the first instance, a larger consumption of home produce, since no great labor was required for breeding pigs, sheep, and goats, and no special war difficulties stood in the way.

In view of all this it may be expected that the number of full-grown animals decreased but little, while the increase of the young ones was enormous. As in the case of cattle, so with pigs, sheep, and goats, there was an abundance of young animals and a general increase of stock; but the reason for this was somewhat different. Young animals were bred not from sheer necessity, but because of the peasants' prosperity; not in order to counteract the constant inroads of the War upon full-grown stock, but from a desire to increase its size. And such increase was not merely a preparatory stage toward improvement at some future time, but an actual achievement, a definite step in advance by comparison with the pre-war situation.

Facts do not contradict such an expectation. Anyway they bear out the view that war conditions were far more favorable for the breeding of sheep, goats, and pigs than of cattle, and that, although there was an essential similarity between all stock keeping during the War, the disadvantages of cattle breeding were hardly met with in the case of smaller animals, while the advantages were strongly accentuated.

The following table illustrates the changes that took place during the War in the total number of sheep and goats in the main territorial subdivisions of Russia.

SHEEP AND GOATS

Parts of Russia	Absolute numbers 1914	1915	1916	Index numbers (1914 = 100) 1915	1916
European Russia (forty-five provinces)	34,824,200	34,179,400	61,164,000	98.1	175.6
Cis-Caucasia	5,306,600	5,570,700	6,641,800	105.0	125.2
Trans-Caucasia	5,173,600	3,987,900	3,099,800	77.1	59.9
Siberia	5,745,200	5,853,300	8,555,300	101.9	154.1
Steppe region	7,462,200	7,699,200	10,158,600	103.2	136.1
Total for sixty-eight provinces	58,511,800	57,290,500	89,619,500	97.9	153.7

The fluctuations of the curve are exactly the same here as in horse and cattle breeding: there is a fall between 1914 and 1915, a big rise between 1915 and 1916, and another fall between 1916 and 1917 (as will appear later), but not so great as to annul the previous years' success. But the fluctuations were very different in the two cases. In 1915 the flocks decreased merely by 2 per cent and that only in European Russia and Trans-Caucasia, whilst elsewhere there had been a slight increase. The rise in 1916 was, on the contrary, quite unprecedented and took place practically everywhere. It is true that the figures given in the table may not be strictly accurate, but the inaccuracy, at any rate so far as the totals for Russia are concerned, is but slight.[13] The decrease characteristic of 1917 in the number of sheep and goats amounts to 4.9 per cent of their number in 1916 in forty-one provinces of European Russia and is so small that it does not affect the general impression of prosperity conveyed by the figures for the preceding years.[14]

The number of pigs in 1915 had not decreased anywhere except in Trans-Caucasia; the influence of the War can be seen perhaps only in the slower rate of their increase, which, before the War, used to be 4 or 4.5 per cent a year. The figures for 1916 are un-

[13] This is confirmed by general considerations concerning the breeding of sheep, pigs, and goats during the War and, besides, there is no reason to suppose that the statistics of the Veterinary Department are more inaccurate in this case than in the case of horses or cattle.

[14] Data for separate regions of European Russia will be found in Appendix IV.

PIGS

Parts of Russia	Absolute numbers 1914	1915	1916	Index numbers (1914 = 100) 1915	1916
European Russia (forty-five provinces	9,741,100	9,845,300	15,657,800	101.1	160.7
North Caucasus	869,500	1,014,500	1,391,100	116.7	160.0
Trans-Caucasia	477,100	396,600	307,900	83.1	60.3
Siberia	1,428,000	1,538,600	3,369,800	107.7	236.0
Steppe region	129,900	248,700	356,600	191.5	274.5
Total for sixty-eight provinces	12,645,600	13,043,700	21,083,200	103.1	166.7

precedented. It is sufficient to say that the increase in the number of pigs throughout Russia equals two-thirds of their total number before the War.[15]

This increase did not stop even in 1917, which was a bad year for all other stock.[16] The following table shows how the number of pigs owned by peasants had altered that year in the thirty-three provinces of European Russia.

PIGS OWNED BY THE PEASANTS

Age of animals	Absolute numbers 1916	1917	Index numbers (1916 = 100) 1917
Over one year	3,785,800	3,794,500	100.2
From four months to one year	2,625,100	3,482,900	132.7
Under four months	4,047,900	5,575,000	137.7
Total	10,458,800	12,852,400	122.9

It will be seen that the increase was actually more rapid in 1917 than it had been in 1916. There are grounds for believing that on

[15] Data for separate regions of European Russia will be found in Appendix V.

[16] On private estates the number of other domestic animals decreased between 1916 and 1917 as a direct consequence of revolutionary excesses. In thirty-two provinces for which more or less exhaustive statistics are available the number of horses on private estates decreased by 20 per cent, of cattle by 30 per cent, of sheep by 22 per cent. The rules regarding requisitions for the army helped to make matters worse.

private estates the position was similar; at any rate, in thirty-two provinces there had been an increase in the number of pigs on such estates.

Conclusions.

Stock breeding during the War was thus characterized by the following features: fluctuation in the numbers, preponderance of young animals, the growing importance of pigs, sheep, and goats. We have seen that each of these features was a reaction to the conditions created by the War and was entirely due to them. We have also seen that the reaction was not accidental but deliberately brought about by the owners, anxious not merely to counteract the evil effects of War but to transform them into factors of positive value to agriculture.

Our general conclusion with regard to stock breeding during the War exactly coincides with the conclusion arrived at in the preceding chapter about agriculture. As might have been expected, the War had an unfavorable effect upon stock breeding, but it did not undermine it or condemn it to a permanent decline. In their struggle with the difficult circumstances the owners showed so much energy that toward the end of the War a complete restoration of stock breeding was almost in sight. Besides, the influence of the War was not wholly unfavorable; in some respects stock breeding was in a better condition in 1917 than at the outbreak of the hostilities.

CHAPTER VIII

CHANGES IN THE BALANCE OF PRODUCTION AND CONSUMPTION OF AGRICULTURAL PRODUCE DURING THE WAR

Grain Reserves.

For reasons which have been explained at the beginning of Chapter IV, we shall here consider the changes that took place during the War in the production and consumption of cereals only, since this was the staple food of the masses in Russia.

In calculating the balance between production and consumption before the War, the reserves of grain in the country were not taken into account, since they passed on from year to year, decreasing when the harvest was bad and being replenished when it was good. But on the eve of the War such reserves acquired great importance. In view of the food difficulties that Russia had to undergo during the War, it is important to determine how much grain there was in reserve in July, 1914, so as to form a more exact estimate of the quantity of grain the country had at its disposal in the war years.

These reserves were of two kinds: the grain that the producers had left over from the preceding agricultural year, and the supplies of grain on the market.

According to the returns of the inspectors of taxes,[1] the producers' reserves of wheat, rye, oats, and barley were as follows:

WHEAT, RYE, OATS, AND BARLEY HELD BY PRODUCERS

On July 15 of the years	*Quantity (in thousands of puds)*
1909	219,180
1910	388,514
1911	411,732
1912	244,021

[1] See *Surveys* (*Obzori*) of the principal branches of industry and commerce for 1912, published by *Vestnik Finansov*, St. Petersburg.

Grain dealers had the following quantities in hand:

WHEAT, RYE, OATS, AND BARLEY HELD BY DEALERS

On January 1 of the years	*Quantity (in thousands of puds)*
1909	75,616
1910	114,121
1911	116,776
1912	82,055
1913	60,520

These figures show that after the bad harvest of 1911 the reserves of grain, both in the producers' hands and on the market, considerably diminished, so much so that, in spite of the good harvest of 1912, in January, 1913, they were less than in the preceding year.

In 1913 the harvest was even better than in 1912 and exceeded by almost 16 per cent the average of 1909–1913. And since in 1913–1914 only 663 million puds[2] of grain were exported, that is, much less than the average exported between 1909 and 1913 (718 million puds), it is reasonable to suppose that toward the beginning of the War the reserves of grain in the country had been brought up approximately to what they had been in 1910–1911, that is, to about 500 million puds.

Production

The figures below show what the harvests during the four years of war were as compared with the average harvests of 1909–1913. In Poland the winter crop of rye and wheat only is taken into account for 1914; in 1915 the whole of Poland as well as Courland and the provinces of Podolsk, Volhynia, Vilna, Kovno, and Grodno are left out, and in 1916–1917 other provinces occupied by the enemy.

[2] See *Statistics of the Agriculture of Russia and of Some Foreign Countries,* 1917.

PRODUCTION OF WHEAT, RYE, OATS, BARLEY, FODDER CROPS, AND POTATOES[3]

Crops	*Average for 1909–1913*	*1914*	*1915*	*1916*	*1917*
		(in millions of puds)			
Wheat, rye, oats, barley	2,783.7	2,733.6	2,784.7	2,281.7	2,167.1
Other cereals	450.8	370.4	375.9	368.3	387.2
All cereals	3,234.5	3,104.0	3,160.6	2,650.0	2,554.3
Fodder crops	1,635.4	1,385.7	1,365.7	1,316.7	1,247.3
Total for cereals and fodder crops	4,869.9	4,489.7	4,526.3	3,966.7	3,801.6
Potatoes	2,139.4	1,621.3	1,375.7	1,131.1	1,129.6

It will be seen that in the first two years of the War the total production of cereals had decreased but little as compared with the average for 1909–1913. The decrease was more rapid in the two following years, as appears from the following table.

DECREASE IN THE PRODUCTION OF CEREALS

Years	*Decrease (in millions of puds)*	*(percentage)*
1914	380.1	8.0
1915	343.6	7.5
1916	903.2	18.5
1917	1,068.3	21.9
Total decrease in 1914–1917	2,695.2	...

But as already pointed out between 1909–1910 and 1913–1914 an average of 718 million puds was exported yearly, which would have amounted in four years to something like 2,880 million puds; whereas during the War only some 100 million puds were exported. So that smaller harvests were almost entirely compensated by the absence of exports.

The Department of Agriculture estimated[4] the 1916 harvest of cereals in fifty-one provinces of European Russia (excluding Poland, the Caucasus, Courland, and the provinces of Vilna,

[3] Data for 1914–1917 are taken from Kondratev, *op. cit.;* data for 1909–1913 are taken from *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

[4] See *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

Grodno, and Kovno) at 3,578 million puds, that is, only some 133 million puds or 3.5 per cent less than the average for 1909–1913 in the same area with the addition, however, of Courland, Vilna, Kovno, and Grodno. These estimates then are higher than the figures just given in the table; but they are, in a sense, hypothetical, being based upon the data of the Agricultural Census relating to the cultivated area and the Department's figures for the yield per deciatine of crown land. There is no doubt that these estimates are too high if only because in 1916 the area under crops diminished by 6 per cent in comparison with the average area in 1909–1913 and the land was certainly worse cultivated.

But whichever of the two estimates for 1916 we adopt, it will still be clear that during the War Russia had as much grain for home consumption as in normal times and that in the first two years there actually was some surplus of grain.

If we consider the decrease in the production of grain and fodder crops separately, the position may be described as follows:

DECREASE IN THE PRODUCTION OF GRAIN AND FODDER CROPS

Kind of crops	*Average for 1909–1913*	*1914*	*1915*	*1916*	*1917*
			(percentage)		
Cereals	100	96.0	97.8	82.0	79.0
Fodder crops	100	84.8	83.6	80.6	76.3

The production of fodder crops fell sharply during the first year of the War and continued to fall, while the production of cereals hardly diminished at all in 1914 and 1915 and the decrease became perceptible only in 1916.

With regard to potatoes the position was far worse. Already in 1914 the amount gathered was 24 per cent less than the average for 1909–1913; in 1915 the decrease was 35.7 per cent; in 1916, 47.1 per cent; and in 1917, 42.5 per cent. And since practically all the potatoes grown in Russia were intended for home consumption, such a shortage was, of course, very much felt.

Consumption.

It would be extremely difficult to give any exact estimate of grain consumption during the War since no statistics on the sub-

ject are available. All we can do is to analyze the main factors which were likely to increase or to decrease consumption and thus to form some idea with regard to it.

The prohibition of liquor led to an increased consumption of grain by the village population. The money that had been spent upon vodka was saved and the peasants' prosperity rose accordingly. They used to sell grain needed for their own keep, but now they began to have more and better food. The War made the country rich in cash: agricultural produce rose in price; the soldiers' families received separation allowances. In view of all this there can be no doubt that the consumption of grain by the village population greatly increased; decrease in the cultivated area could hardly have affected it, since the peasants, not being in want of money, kept all the grain they needed for their own use.

It is impossible to calculate the increase of grain consumption among the peasants. But in view of the figures of the village population in Russia on the eve of the War, an increase of only 5 per cent in the average pre-war consumption per person would amount to more than 100 million puds.[5]

On the other hand, though a far smaller quantity of potatoes was obtained, the shortage was not so noticeable as it might have been, because hardly any potatoes were now used for distilling purposes.

Another reason why consumption of grain increased was that a huge army had to be provided for. The question is discussed in detail further on; it is sufficient to point out here that according to the statement of the Assistant Minister for Agriculture, M. Glinka, at the Food Congress, 1916,[6] the Department of Agriculture alone had prepared for the needs of the army 300 million puds of grain in the first year of the War, 500 million puds in the second, and was to provide a further 700 million puds for the third year. Army rations in time of war were higher than in peace time; by the end of 1914 the army was five times, and by the end of 1916 ten times as big as it had been during peace; it is perfectly clear, then, that the provision for the army above referred to was on a scale higher than that of the country's normal consumption.

[5] *Statistics of the Agriculture of Russia and of Some Foreign Countries.*
[6] Newspaper *Novoe Vremya,* August 26, 1916.

The following circumstances must have resulted in a decrease of consumption.

The population of the provinces occupied by the enemy amounted in 1914 to 18 millions[7] and most of it remained on the spot, so that the population of the Empire decreased accordingly. Such inhabitants of Polish provinces and the provinces of Vilna and Grodno as took refuge in Russia could not have made much difference to the consumption of grain, since the provinces in question had always been short of grain and obtained it partly from Russia and partly from abroad.

As food difficulties became more acute the consumption of grain in towns, especially in districts where the supply of cereals was short, inevitably decreased and the decrease must have been considerable, since the town population had grown very much during the War.

An even greater decrease in the consumption of grain was due to the fact that so little of it was used now for industrial purposes, that is, for brewing and distilling.

The returns of the Department of the State Sale of Liquor[8] show that in 1913–1914, 55.1 million puds of grain, flour, and malt were used for distilling, and in 1914, 13.4 million puds; figures for potatoes used for distilling for the respective years were 188.9 million puds and 112.5 million puds.

These figures show that prohibition saved the country 40 million puds of grain (in round numbers) and 77 million puds of potatoes. A greater saving was not to be expected during the War, because large quantities of spirit were required for military purposes and also spirit was exported to the allied countries, chiefly to France. Besides, in spite of the prohibition, grain was used for illegal distilling and, of course, no official statistics could take account of it.

According to the same data some 15 million puds of barley a year had been used, on the average, for brewing beer during the period 1911–1913. In 1914 this quantity fell to 11 million puds and in 1915 to 75,000 puds.

It follows that the decrease in the consumption of grain for distilling and brewing during the War must have amounted to at least 50 or 60 million puds a year.

[7] *Statistics of the Agriculture of Russia and of Some Foreign Countries.*
[8] *Ibid.*

Balance of Production and Consumption.

Taking all these circumstances into consideration we must conclude that even during the third year of war there were sufficient supplies of grain in the country. This is confirmed by government statements.

M. Naumov, Minister of Agriculture, said in the Duma in February, 1916,[9] that the yearly consumption of grain by the army and the population amounted approximately to 3,000 million puds. This figure probably does not include seed grain; if it were included the yearly consumption would be something like 3,500 million puds. The quantity of grain harvested during the War, together with the supplies left over from 1913, was certainly enough to meet the demand. Thus for instance at the Food Congress in August, 1916, M. Glinka, Assistant Minister for Agriculture, said:[10] "We possess enormous supplies of grain left over from last year, more than 500 million puds, and meanwhile the new harvest is being gathered which promises to be very good."

Seven months later, at the end of March, 1917, M. Shingarev, Minister of Agriculture in the Provisional Government, stated as follows in his speech in the Petrograd Town Hall:[11] "There is every reason to believe, in the opinion of all competent persons I have spoken to, that there are sufficient supplies of grain in the country to last till the next harvest."

There was enough grain for the country's needs. But substantial changes had taken place in the geographical distribution of consumption. The situation remained as it had been before the War in areas with a surplus of grain, but it had greatly altered in the regions where there was a shortage. In the first place, since the army had been concentrated on the western frontier of Russia, an enormous center of consumption was created there. Secondly, consumption had greatly increased in the cities, especially in Petrograd and Moscow, and in industrial centers, because their population had been swelled by mobilized soldiers, the sick and the wounded, munition workers, refugees and, sometimes, prisoners of War.

Thus consumption areas had shifted. There was acute scarcity

[9] *Novoe Vremya,* February 19, 1916.
[10] *Ibid.,* August 26, 1916.
[11] *Ibid.,* March 25, 1917.

of bread in places where grain was not locally obtainable but had to be brought from elsewhere; and since transport was thoroughly disorganized, there arose great difficulties with regard to food supplies.

Let us consider in some detail the provisioning of the army, the towns, and the industrial centers.[12]

Provisioning the Army.

The exact figures of the number of men mobilized were given in Chapter V.

The size of the army increased continually and so rapidly that by the end of 1916 it was more than ten times as great as it had been before the War. It went on increasing in 1917, too, but from the summer of that year onward masses of soldiers deserted, so that the figure given for the end of 1917 does not altogether correspond with reality.

CHANGES IN ARMY RATIONS[13]

When in force	*Bread*	*Groats*	*Rice, macaroni, peas, etc.*	*Flour*
		(*zolotniks*[14] *per day*)		
From the outbreak of the War to January, 1916	240	24	..	4
From January, 1916, to April 6, 1916	240	24	8	4
From April 7, 1916, to December 27, 1916	288	24	20	4
From December 28, 1916, to March, 1917	240	24	20	4
After March, 1917	192	24	..	4

These figures show that the ration was first increased in January, 1916, and reached its maximum in April of the same year. But by the end of 1916, as the result of transport difficulties, it was reduced, and in March, 1917, the situation had grown so serious that it was brought down lower than it had been in 1914 and 1915.

[12] For a detailed discussion of these problems see P. B. Struve, *Food Supply in Russia during the World War* (Yale University Press, 1930), in this series of the "Economic and Social History of the World War."

[13] Kondratev, *op. cit.*

[14] One zolotnik = 0.15 oz.; one Russian pound = 96 zolotniks = 0.9 lb.

If we express the daily ration of flour in terms of a yearly ration of grain (reckoning the conversion of grain into flour at 80 per cent) we shall find that the annual consumption of grain per soldier up to April, 1916, and from December, 1916, to March, 1917, was about 22 puds, that is, 88 per cent of the average consumption per head in Russia between 1909 and 1913 of all kinds of grain and for all purposes, that is, for seed, for food, fodder, and industry.[15]

But in addition to flour, soldiers had also groats, peas, etc. These figures give one some idea as to how much larger army rations were than the average consumption in time of peace.

The quantities of grain required by the army during the War were as follows:

GRAIN REQUIRED BY THE ARMY

Years	*All kinds*		*Wheat and rye*		*Oats and barley*	
	Quantity (in millions of puds)	*Index numbers*	*Quantity (in millions of puds)*	*Index numbers*	*Quantity (in millions of puds)*	*Index numbers*
1914–1915	231	100	62	100	157	100
1915–1916	343	148	92	146	237	151
1916–1917	686	296	246	389	392	249

The above table shows that army demands were particularly heavy in the third year of the War; they then were twice as great as in the second year, especially in respect of wheat and rye. This was due partly to the increase in the size of the army and partly to the higher ration of 1916.

The amount of grain actually obtained for the army—300 million puds in 1914–1915 and 500 million puds in 1915–1916—was far in excess of the demand, especially in respect of wheat and rye. Thus, for instance, in 1914–1915, 106 million puds of wheat and rye were provided instead of the 62 million puds required, and, in 1915–1916, 233 million puds instead of the 92 million puds required. As to fodder, in the first year the amount required was exceeded by 16 per cent, but already in 1915–1916 the supply fell slightly short of the demand (233 million puds as against 237 million puds).

During the first two years of the War, then, the army had ample supplies of grain; in 1916–1917, however, the position radically

[15] Kondratev, *op. cit.*

changed. In that year the commissioners of the Department of Agriculture had to provide definite quantities of grain not for the army only, but for the civilian population as well, and the result was that they did not succeed in obtaining enough.

Provisioning the Towns.

As a result of the dislocation of troops and other circumstances connected with the War, the town population rapidly grew in numbers. According to the statistics collected by the Special Council for Food Supply, during the first fourteen months of the War it had grown by more than 1.5 million, the increase being particularly noticeable in Petrograd and Moscow, in big industrial centers, and in the Central Agricultural and Southern regions; it went on at a still more rapid rate in the months that followed.

In spite of the growth of population there was no shortage of food in the towns during the first year of the War, but it began to be felt toward the spring of 1915. The Special Council for Food Supply noted that the first complaints of the shortage of food, particularly of bread, were made about that time, and by October 1, 1915, there was a shortage in five hundred towns, that is, in three-quarters of all the towns with regard to which statistics are available. This means that at a time when supplies for the army exceeded the demand and the army rations were about to be considerably raised, the towns were already suffering from food difficulties.

It was the business of the local government bodies to deal with these difficulties; the Central Government helped them with money. Thus, for instance, at the beginning of December, 1915, the Special Council was allowed to make a grant of 12.9 million rubles to 104 towns and eleven zemstvos for buying articles of prime necessity; besides, the Treasury guaranteed 4.5 million rubles of the loans made by private and other banks for the same purpose and actually advanced 1.7 million rubles on account. The State also helped local authorities to buy provisions and let them have grain from their own supplies. By February, 1916, the towns and zemstvos had received over 30 million puds from the government supplies.[16]

According to the information obtained by the Special Council,

[16] *Novoe Vremya,* December 10, 1915; also speech of M. Naumov, Minister of Agriculture, in the Duma, see *Novoe Vremya,* February 19, 1916.

by October 1, 1915, 140 towns had bought supplies of provisions amounting to 16 million puds, including 10.5 million puds of grain.[17]

These quantities are, of course, very small as compared with the needs of the towns. Thus, for instance, it was estimated that for March, 1917, Petrograd required about two million puds of grain,[18] so that at that rate its annual requirement was 24 million puds. True, these figures refer to a much later date, when the consumption in all the towns had greatly increased as compared with the end of 1915. They do show, nevertheless, how small the purchases made by the towns at the end of 1915 were.

The purchases made by the zemstvos up to October, 1915, were even smaller and amounted to only 597,000 rubles. As the food crisis was growing more acute, the Government, in the autumn of 1915, had to take upon itself the task of buying grain for towns, munition factories, and big industrial centers. For 1916–1917 it had to provide 420 million puds of grain, including 320 million puds of wheat and rye, 60 million puds of oats and barley, and 40 million puds of other kinds of grain.[19]

The commissioners of the Department of Agriculture thus had to obtain, for the season 1916–1917, 1,106 million puds of grain, including the amounts for the army that have been mentioned already. But they succeeded in obtaining only 48.2 per cent of this quantity—541 million puds. These figures prove how serious the position was. The best illustration of it is to be found in the speech of M. Shingarev, the Minister of Agriculture, delivered by him in the Petrograd Town Hall at the end of March, 1917:

> When I first had to go into the subject, I found that we had no reserves of food whatever either in the army, or in the towns, or in the villages. The food supplies of the biggest cities and large army sections were not enough to last more than a few days. Supplies accumulated in large centres at the base had been used up in the autumn. The towns and the army have lived from day to day, depending upon our precarious and inefficient railway communications. . . . I have a number of figures before me showing the amounts of foodstuffs received

[17] Kondratev, *op. cit.*

[18] Speech of M. Shingarev, Minister of Agriculture, see *Novoe Vremya*, March 25, 1917.

[19] Kondratev, *op. cit.*

daily in Petrograd and Moscow. On the whole the quantities of wheaten and rye flour and rye grain are as much as is required for Petrograd at present, and if we had a stock in hand to last, say, for two or three months, we could set our minds at rest. But we know that this stock is only enough to last some ten days at most, and therefore every decrease in the daily arrivals of grain is bound to give cause for anxiety. And the worst is yet to come—at the end of March or beginning of April roads will be impassable in the black-soil zone, from which most of our food comes. When the spring floods are over we shall probably be able to obtain supplies regularly once more.

Thus after two years of war, which had passed off comparatively well so far as food supplies were concerned, the position became very serious in 1916–1917. Less than half of the grain required by the army, the towns, and other large centers of consumption, was forthcoming; there were no supplies to speak of anywhere in reserve; the army and the country lived from hand to mouth at the mercy of the slightest accident that might stop, or delay, the arrival of supplies, scanty as they were, and thus cause a regular catastrophe.

Government Measures with Regard to Food Supplies.[20]

From the very first days of the War the task of ordering and purchasing provisions for the army was entrusted to the Department of Agriculture, which carried on the work by means of special commissioners, regional and provincial, throughout the country. On a much smaller scale the same thing was done by the appropriate military officers. Municipalities, zemstvos, and the Ministry of the Interior, ordered and purchased food for the civilian population. All these institutions acted independently of one another and often at cross purposes. There was even greater confusion and conflict of authority with regard to food control.

Seeing that it was necessary to introduce some unity into the business of provisioning the country, the Council of Ministers, on March 16 and May 19, 1915, entrusted it to the Minister of Commerce and Industry, who was to be helped by a specially appointed Central Food Committee. Instead of improving matters, however,

[20] The government organization of food control is dealt with in detail in P. B. Struve, *Food Supply in Russia during the World War.* Only a short outline of the problem is given here.

this measure merely created another administrative organ in addition to those already existing, which went on functioning as before. The new arrangement lasted only for a few months and made no appreciable difference in the general state of things.

It was replaced, in accordance with the Law of August 17, 1915, by the Special Council for discussing and unifying government measures to secure supplies of food and fodder for the army, the fleet, and the towns, and coördinating the activities of institutions concerned with provisioning the country. All these institutions were subordinated to the Council, which was presided over by the Minister of Agriculture, and had wide administrative powers. Failure to comply with its orders was severely punished under the common law.

In connection with the work of the Special Council, the whole country was covered with a vast network of local committees under the control of local commissioners, who were also given considerable powers. On February 12, 1916, the commissioners were entrusted by the Minister of Agriculture with the supervision of the transport of consignments of provisions, and it was their duty to see that they were carried in a proper order of precedence.

The commissioners were thus enabled to deal with every aspect of the business on the spot.

Policy of the Special Council.

The Chairman of the Special Council had to direct the whole work of provisioning the country outside the military zone, and thus unity of action was achieved with reference to obtaining and purchasing food supplies.

The military authorities were forbidden by the Commander-in-Chief to order or purchase food and fodder outside the theater of war; on November 23, 1915, an Imperial decree was issued prohibiting the adoption of exceptional measures by the Army Supply Department to obtain food and fodder in the vicinity of the front without previous arrangement with the Chairman of the Special Council.

Further, it was arranged that the Ministry of the Interior should order seed for the rural districts and provisions for the refugees through the commissioners of the Department of Agriculture. Then, at the end of 1915, the Chairman of the Special Council di-

rected the zemstvos and municipal councils to buy grain, seed, and fodder solely through the commissioners or by agreement with them.

When they first began their work the commissioners of the Department of Agriculture tried to purchase grain either direct from the producers, avoiding middlemen, or from the zemstvos and the agricultural and credit associations, but never from private dealers. They were thus compelled to create a whole organization of their own, to have special agents, and to maintain depots in which grain bought in small quantities was accumulated; the number of such depots in 1916–1917 was 1,294.[21]

Lack of storage greatly complicated the commissioners' work, for it was no use buying grain from the producers in the autumn unless it could be stored. At the Food Congress in August, 1916, M. Glinka, the Assistant Minister for Agriculture, said that "owing to the absence of accommodation at railway stations for the storage of grain till it could be sent by rail, it was impossible to accumulate large quantities of grain to be held in reserve."[22]

The number of grain elevators gradually increased and by the autumn of 1916 the Department of Agriculture could store in them 232,052,000 puds of grain, and more than half of this quantity (139,312,000 puds) could be stored in depots that were conveniently situated. If, however, we compare these figures with the quantities of grain that had been actually accumulated in 1915–1916, to say nothing of the quantities required for 1916–1917, it will be clearly seen how insufficient were the facilities at the disposal of the commissioners.

It was essential for the success of their task to make use of private dealers who had considerable storage accommodation. The organization created by the Department was becoming increasingly inadequate to meet the growing demands of the army and the cities; when the commissioners met with difficulties in obtaining supplies they were completely engrossed in trying to overcome them and neglected all other issues. Therefore as early as 1915–1916 the Special Council recommended the commissioners to secure when possible the help of commercial agents for obtaining the necessary supplies of grain.[23]

[21] Kondratev, *op. cit.*

[22] *Novoe Vremya,* August 26, 1916.

[23] *Ibid.,* September 2, 1916.

The Assistant Minister of Agriculture, M. Neverov, stated at a meeting of the Special Council on August 31, 1916, that 50 per cent of all the grain secured that year had been obtained from private dealers and 17 per cent through coöperative societies.[24]

Before the beginning of the 1916–1917 campaign the Special Council had laid down the conditions on which grain was to be obtained through private dealers.

As far then as the work of providing supplies of grain was concerned the Special Council achieved the following results: (1) it concentrated more or less completely in the hands of the commissioners the whole business of purchasing grain, both for the Government and for municipalities and zemstvos; (2) it encouraged the commissioners to make greater use of private dealers; (3) it considerably increased the number of grain depots and granaries. But this was, of course, not sufficient for the success of their enormous task, which was rapidly expanding, and the Special Council were forced to take a number of radical measures.

Fixed Prices.

In the autumn of 1915 there was a considerable rise in the price of grain, and it was found necessary to fix the prices so as to make it easier to obtain supplies for the army. The proposal to fix prices was worked out by the commissioners on the basis of the local market prices and was fully discussed in committees before being submitted to the Special Council for ratification.

A fixed price for oats was introduced on October 5, 1915; for rye, rye flour, millet, groats, and buckwheat on December 6, 1915; for wheat and wheat flour, on January 3, 1916; and for barley, on February 6, 1916. The prices had been fixed before the harvest for 1916 was gathered, and were introduced in the first instance in fertile regions where the bulk of the supplies was obtained. These included delivery to a railway station or wharf and applied to grain which answered certain specifications. If it was above the required standard, a correspondingly higher price was paid for it; if below the standard, the price was lowered.

The fixed prices represented the maximum that the owners could receive when selling grain to the Government; they did not preclude

[24] *Ibid.*

the possibility of lower prices being paid by agreement. Prices were fixed solely for government purchases, and owners were not forbidden to sell to private persons at their own price; but the Government had the right to buy from the owners all the grain suitable for its purposes, and if the owners refused to sell at the prices fixed, the goods were requisitioned by the commissioners at 15 per cent less than the fixed price.

This partial introduction of fixed prices proved to be of little use. Non-controlled prices rose more rapidly than ever and the population, except of course, the producers themselves, had increasing difficulty in obtaining bread. It was therefore urged more and more strongly by the press and public opinion that it was necessary to fix the price of grain all round, whoever the purchaser might be.

At the end of May, 1916, the Chairman of the Special Council asked the commissioners to work out in local committees a new table of fixed prices, with the concurrence of the zemstvos and municipal councils, trade exchange committees, agricultural and coöperative societies.

When the matter had been discussed in the provinces the conclusions arrived at were submitted to the congress of commissioners in Petrograd on August 25, 1916, and the decisions of the congress were dealt with by the Special Council between August 31 and September 2, 1916.

Both the congress and the Special Council voted for the control of all grain prices, both for government and private purchases. The method by which prices were to be fixed gave rise to much lively discussion in the Council. Local committees had based their estimates on the cost of production in 1916. Chairmen of zemstvo boards and commissioners of the Moscow district, at their congress in Moscow, proposed that the fixed prices should be arrived at by estimating the relation between the former and the present cost of production and multiplying the old market prices by the coefficient thus obtained.[25] The Special Council followed this plan for fixing the prices of rye and wheat, and determined the prices of other kinds of grain on the basis of data obtained by its officers and of proposals made by local committees. The Minister of War protested that the prices were too high. After further consultation on the sub-

[25] *Novoe Vremya,* August 26, 1916.

ject at a joint meeting of the Special Councils for Defense and for Food Supply it was decided to lower the price of rye by 10 per cent, of wheat and barley by 5 per cent, and of oats by 15 per cent.[26] These revised prices were approved by the Council of Ministers and announced to the public on September 12, 1916.

But the introduction of fixed prices for all sales of grain made matters worse instead of better: it came too late. As one of the speakers in the Duma said, on November 24: "The prices were fixed at the beginning of September when in central Russia trade in grain was in full swing and all sorts of bargains were being freely made. In south Russia the harvest had been gathered at the end of July and was put on the market without any fixed prices."[27]

The chief trouble was that in most cases the fixed price proved to be much lower than the market price. Consequently the owners preferred to keep back their grain in the hope of selling it at their own price or of waiting till the fixed prices were abolished, as rumor said they might be.

Seeing that there was very little grain, the Special Council raised the question whether it would encourage the sales to establish a definite monthly rate of decrease in the fixed prices after November 1. This proposal, however, was not carried out and, instead, the fixed prices were raised.

On November 29, 1916, the Minister of Agriculture issued a circular on the subject of the grain and fodder required to be levied for the army; it was therein stated that grain brought to receiving depots not less than 20 versts (13 miles) distant from a railway station or a wharf was to be paid for at the fixed price and carried at government expense to the station or the wharf. Further concessions were made for producers who delivered their grain before January 6, 1917: (1) if they brought the grain to the station they received in full the regulation price of the grain plus the cost of carriage from the depot to the station at the official rate; (2) if the grain was sold at the farm the cost of carriage at the above rate was deducted from the price of the grain. On January 3, 1917, it was announced that these regulations were to remain in force till March 1, 1917.

[26] *Ibid.*, September 10, 1916.
[27] *Ibid.*, November 25, 1916.

Thus the prices fixed in September had as a matter of fact been raised at the end of November. This did not, however, improve the position.

The Levies.

When the failure of the food campaign of 1916–1917 became apparent, the Minister of Agriculture deemed it necessary to introduce compulsory levies of grain and fodder needed for the army and issued an ordinance to that effect on November 29, 1916.

The ordinance laid it down that the quantity of grain to be purchased in every province was to be determined by the Chairman of the Special Council according to the results of the harvest, the amount of grain in stock, and the rate of consumption. Provincial zemstvo boards, or other institutions that replaced them were, with the help of the Department of Agriculture's commissioners, to apportion the quantity to be levied between the different districts. The district zemstvo boards were to decide on the amounts to be levied from persons not belonging to the peasant class and from the different *volosts*,[28] as well as to determine the general procedure to be followed. The volost and village meetings were to settle the amounts to be levied from the different villages and individual peasants. The zemstvo boards and the volost and village communities were held responsible for carrying out the work. The grain was to be paid for at the fixed price, subject to the additions and deductions mentioned above. If the owners of the grain refused to sell their due share or failed to do so in time, their grain could be requisitioned at a price 15 per cent lower than the normal and the actual cost of transport to the nearest station, harbor, or depot deducted from it.

Altogether 772 million puds of rye, wheat, oats, barley, millet, and buckwheat were to be levied in the thirty provinces of European Russia.[29]

The Minister of Agriculture's orders were that the business of apportioning the amounts to be levied was to be finished by January 31, 1917, and the commissioners were allowed, by agreement with zemstvo boards, to exempt entire provinces and districts on condi-

[28] Rural administrative unit consisting of two or more villages.

[29] *Novoe Vremya,* January 17, 1917.

tion that the necessary amounts were purchased there within a definite period of time.[30]

By January 9, 1917, in twenty-two provinces, 437 million puds of grain were apportioned; and, in addition, 23 million puds were purchased on the special terms already described. Some of the provinces had even larger levies imposed upon them than had originally been proposed and only six provinces undertook to supply smaller quantities than had been asked of them.[31]

The apportioning of the levies was accomplished satisfactorily, but the actual collection of grain was anything but successful. The best proof of this is the fact that, in spite of the special advantages offered to owners who delivered their grain before January 6, only 23 million puds out of the intended 515 million were purchased by that date in twenty-two provinces, that is, only 4.4 per cent of the amount required. The offer of special advantages was therefore continued till March 1.

In spite of all these measures the position with regard to food supplies remained very serious and, after the Revolution of March, 1917, the Provisional Government decided to take urgent steps and completely to reorganize the system of food control, introducing a government monopoly of grain.

Policy of the Provisional Government.

The reorganization of the system of food control proved, however, to be chiefly a matter of form, and all that it did was enormously to increase the bureaucratic character of the institutions concerned, making them much more cumbersome and a greater expense to the country.

On May 5, 1917, a special Ministry of Food Supply was established and the head of it became Chairman of the State Food Committee and generally took charge of the whole business of provisioning the country.

One of the most important measures was the grain monopoly.[32] In his speech to the Petrograd Municipal Council the Minister of Agriculture, M. Shingarev, referred to the subject of the grain monopoly in the following terms:

[30] *Ibid.*, December 3, 1916.

[31] *Ibid.*, January 17, 1917.

[32] The grain monopoly is discussed in detail in P. B. Struve, *op. cit.*

The State was confronted with the necessity of obtaining grain in some way or other. There were two alternatives before it. We were advized, on the one hand, to adopt the course of not interfering with prices or hampering trade by means of which grain would eventually pass into our hands. On the other hand, there was the alternative of declaring grain a Government monopoly and of laying upon the population the duty of selling it to the State at a fair price. There is a great deal to be said for free trade; but the majority of the Provisional Government have decided that, in the present circumstances it would be impossible to allow it. The State is, therefore, faced with another and a harder task, to take upon itself the business of purchasing corn and supplying the population with necessary commodities.[33]

Such measures could not, of course, be successfully put into practice in the conditions of economic and political anarchy which prevailed in Russia after the Revolution. The complete reorganization of the system of food control must have made the position still more complicated and confused.

In spite of all the Government's efforts, producers delivered less and less grain. In May, 1917, the State Food Committee decided to take the following steps: (1) to consider the question of registering supplies of potatoes throughout the country; (2) to suggest that in provinces where much wheat was consumed 25 per cent of it should be replaced by maize; (3) to regulate the consumption of grain in towns by introducing rationing cards; (4) to take under control the consumption of grain used for fodder, etc.[34]

By his ordinance of August 20, 1917, the Food Minister commanded the local authorities to adopt exceptional measures including the use of armed force, in order to obtain grain; it was to be taken, in the first instance, from big landowners and peasants in villages nearest to railway stations. On August 27, the Government gave the Minister of Food Supply the right to requisition grain at prices 30 per cent below the normal, and similar powers.

In August, 1917, of the 19.1 million puds scheduled for shipment only 6.6 million puds or 34 per cent actually were loaded; in September of the 19.7 million puds scheduled 5.9 million puds or 30 per cent were loaded.[35]

This shows that in the autumn of 1917 only one-third of the

[33] *Novoe Vremya*, March 25, 1917.

[34] *Ibid.*, May 13, 1917.

[35] Kondratev, *op. cit.*

grain scheduled for shipping was actually loaded; we do not know how much of it reached its destination.

This is how the matters stood with regard to food supplies on the eve of the Bolshevik *coup d'état.*

Export Trade in Agricultural Produce.

The effect of the War upon the Russian export trade in agricultural produce was most unfavorable. When the War began the western frontier and the Baltic Sea were closed, and, soon after, when Turkey joined Russia's enemies, the Black Sea route was closed also. The only line of communication with western Europe, which had before the War been the sole market for Russian agricultural produce, was the White Sea (Archangel)—a route not in the least fitted for the purpose—and the distant Vladivostok. This was the chief reason for the decrease in foreign trade, especially during the first two years of the War; another factor that helped to keep down the exports was the embargo, imposed on July 26, 1914, on agricultural produce, though exceptions might be made in favor of allied and friendly countries.

Besides, as the War continued, Russia began to suffer from a shortage of agricultural produce, and all there was of it had naturally to be reserved for home consumption.

The table below shows that exports decreased considerably in 1914, although during the first seven months of that year export trade was carried on under normal conditions.

IMPORTS AND EXPORTS OF AGRICULTURAL PRODUCE[36]

	Average for 1909–1913		*1914*	
	Value (in millions of rubles)	*Proportion of total foreign trade (percentage)*	*Value (in millions of rubles)*	*Proportion of total foreign trade (percentage)*
Imports	310.3	27.2	286.8	26.1
Exports	1,189.5	79.2	709.7	74.2

Imports in 1914 diminished only by 7.5 per cent as compared with the average for the period 1909–1913, but exports by 40.3 per cent. At the same time the relative importance of both the imports and exports of agricultural produce decreased and, therefore, the

[36] See *Obzor vneshnei torgovli Rossii po evropeiskoi i aziatskoi granitsam* (*Survey of Russia's Foreign Trade over the European and the Asiatic Frontier*), for 1914, published by the Department of Customs.

decrease in foreign trade in agricultural produce was greater than the decrease in foreign trade as a whole.

Cereals.

For the years that follow we have no comprehensive figures for exports and imports of agricultural produce, and must consider therefore the exports in the principal items of such produce.

EXPORTS OF CEREALS

	Average for 1909–1913	*1914*	*1915*	*1916*	*1917*
		(in millions of puds)			
Quantities	724.4	377.3	36.9	42.3	1.7
		(in millions of rubles)			
Value	676.7	353.9	68	100.6	4.9

It appears that in 1914 the volume of exports fell by 48 per cent, in 1915 and 1916 by almost 95 per cent, and that during the first months of 1917 the exports were insignificant. The decrease in value was less striking because the prices had greatly increased and a different kind of cereals was exported.

Of the total quantity of cereals exported in 1914, 336 million were dispatched before the beginning of the War and only 11 million puds between August and December; of these, 7.4 million puds were sent to Finland and only 3.7 million puds to other countries. Thus the export of grain practically stopped when the War began.

Before the War Russia exported chiefly wheat and barley and, in much smaller quantities, oats, rye, and maize. A considerable change in this respect took place.

EXPORTS OF SEPARATE CEREALS

Kind of cereal	*1914*	*1915*	*1916*	*1917 (January–July)*
		(in thousands of puds)		
Wheat	147,094	11,100	14,381	826
Rye	23,331	5,802	6,207	248
Wheaten flour	5,190	5,058	7,813	296
Rye flour	4,668	8,622	7,519	79
Barley	120,619	405	164	34
Oats	16,815	104	24	11
Maize	17,448	41	151	..
Bran	27,377	4,777	4,000	78

Wheat had been mostly exported to France and still retained the first place among exports, but exports of barley stopped almost completely because our chief customer had been Germany. Besides, shortage of fodder began to be felt in Russia sooner than shortage of food and, therefore, barley and oats were retained for home consumption. There was, however, a comparative increase in the exports of rye and wheat flour, which were sent almost exclusively to Finland.

Since all other means of communication with western Europe were closed, grain was sent from Archangel on Allied ships that brought to Russia munitions of war.

Flax and Hemp.

The export of flax during the War was as follows:

EXPORTS OF FLAX

Years	*Quantity*			*Value*
	Flax	*Yarn and tow*	*Total*	*(in thousands of rubles)*
	(in thousands of puds)			
Average for 1909–1913	15,094	2,167	17,261	84,494
1914	12,487	1,651	14,138	70,617
1915	3,804	1,042	4,846	38,734
1916	6,321	1,073	7,394	111,435
1917 (January–July)	2,879	417	3,296	86,634

These figures show that the export of flax fell considerably during the War in quantity, while increasing in value, because of the enormous rise in prices.

Decrease in the export of flax was chiefly due to the fact that the demand for it in Russia during the War had greatly increased and the supply diminished. Only what was left over when the requirements of the Russian flax industry had been met could be exported. Another circumstance that affected the export of flax was that the Baltic ports, from which it used mostly to be shipped before the War, were closed. At the beginning of the War flax was exported partly through Archangel and partly through Finland, Sweden, and Norway. But when Sweden prohibited the transit of flax through her territory, all the flax had to be sent *via* Archangel, which was very difficult, especially during the early months before the transport was properly organized.

As there was a shortage of flax it was only allowed to be exported to Allied countries, chiefly to France and Great Britain. The quantities sent there were as follows:

EXPORTS OF FLAX TO GREAT BRITAIN AND FRANCE

Importing country	*1914*	*1915*	*1916*	*1917 (January–July)*
		(in thousands of puds)		
Great Britain	3,758	3,416	5,897	2,534
France	1,600	123	766	333

The same thing happened with regard to hemp: the export of it greatly decreased in amount, but increased in value. During the War only some two-thirds of the normal quantity of hemp were exported, while the value fell only by 4 per cent (reckoning it in rubles).

Eggs.

The following quantities of eggs were exported during the War:

EXPORTS OF EGGS

Years	*Number (in millions)*	*Value (in thousands of rubles)*
Average for 1909–1913	3,572	90,646
1914	2,210	58,495
1915	492	14,309
1916	125	6,619
1917 (January to July)	4	425

This table shows that the export of eggs during the War rapidly decreased and practically ceased in 1917. The price of eggs kept increasing. The export of eggs to Germany and Austria stopped when the War began, and eggs were mostly sent to Great Britain. In 1915, 492 million eggs were exported, of these 370 million were shipped to Great Britain, 71 million to Sweden, and 51 million to Finland.[37]

Hides and Leather.

A great number of sheep and goat skins used to be exported from Russia, but during the War hardly any left the country. Only the

[37] *Obzor uneshnei torgovli Rossii po europeiskoi i aziatskoi granitsam.*

expensive pelts were exported in war-time and the Government did its utmost to encourage this trade. The increase in the value of the exports, while their amount was enormously diminished, is attributable to the change in the kind of goods and the increase in prices. Pelts were mostly sent to Great Britain (32,000 puds in 1915 and 24,000 puds in 1916) and the United States (8,000 and 20,000 puds), and also to Finland (10,000 and 9,000 puds) whence they probably were sent to western Europe *via* Sweden.[38]

Hides were urgently required for the needs of the army, and since hardly any leather was imported during the War, it was natural that the export of hides should have fallen considerably in 1915 and 1916, and almost stopped in 1917.

Superior kinds of leather not suitable for army needs might be exported, and in 1915 a much greater amount of these was exported than in times of peace, but in 1914 and 1916 the exports were less than usual. All this leather was sent to Finland, and from there it probably was dispatched by rail through Sweden into other European countries.

[38] *Ibid.*

CHAPTER IX

CHANGES IN THE CONDITION OF THE MARKET

Immediate Effects of the War.

At the beginning of the War no one had foreseen that there might be a food shortage in a country so rich in agricultural produce as Russia. When the western frontier and the southern ports were closed, so that the surplus of the 1914 harvest could not be exported, there was considerable anxiety in commercial circles lest there should be a big fall in prices. This anxiety was shared by the bureaucracy, and the Minister of Finance made the following statement in his commentary on the draft budget for 1915: "Of course neither the enormous consumption by the army nor the export into neutral and allied countries can exhaust our surplus of grain."

But the reality proved to be very different. At the end of August railways were once more opened for transport of merchandise, which had been stopped owing to the mobilization, and it was again possible to send consignments of grain in the usual way. Trade gradually revived. Taking advantage of low prices, millers began to lay in stores of grain for the winter and the spring, and large quantities of grain were bought for the army.

The market for agricultural produce, and particularly the grain market, could not, however, revert to its normal state. As the War went on it became more and more disorganized.

Normal exchange of goods gradually ceased, for the very basis of it, the freedom of trading, had disappeared. The activities of private traders became more and more restricted and government agencies undertook the purchase of grain on an ever increasing scale. But even within the narrow limits in which the traders' activity was confined, they experienced greater and greater difficulties. This was partly due to the Government's regulating the market, transport, and prices, and partly to other circumstances. Less grain was being grown; transport was disorganized and, consequently, there was not the normal exchange between the grain-consuming and grain-producing regions, especially as exports from one region to another were often prohibited; prices rose inordi-

nately and the relation between the value of grain and of other articles of peasant consumption was no longer what it used to be.

Let us analyze these circumstances and the causes to which they were chiefly due.

Decrease in Private Trade.

In the five years 1909–1913 some 1,531 million puds of grain were put on the market. Nearly half of this quantity was exported abroad, but the rest, that is, on the average some 800 million puds were sold within the country. Of course these quantities varied considerably from year to year, but they give some idea of the amount of trade done.

During the first two years of the War the commissioners of the Department of Agriculture had secured for the army 300 million and 500 million puds of grain. For 1916–1917, 1,106 million puds were required for the army and the civilian population and 541 million puds were actually obtained. Besides, grain was purchased by the military authorities and, especially at first, by other government institutions and public bodies.

If the turnover of the pre-war grain trade be compared with these figures, the enormous importance of government purchases for the market will be seen.

During the first year of the War the commissioners of the Department of Agriculture, who did most of the purchasing, endeavored to buy direct from the producers without any help from the grain dealers. They did not, of course, altogether succeed in avoiding the dealers, but their policy was characteristic of the Government's attitude toward private trade.

Later on the commissioners were compelled by circumstances to change their methods and, in the second year of the War, they were recommended to secure the coöperation of grain dealers whenever possible, giving them a commission on all purchases; and it was with the dealers' help that 50 per cent of all the grain purchased during that year was secured.

In September, 1916, the Special Council for Food Supply, finding it desirable that grain traders should help the Government to obtain the necessary supplies of grain, fixed the amount to be paid them on commission for buying up grain, collecting, sacking, and storing it, at five copecks per pud. The commissioners were advised

to consult the trade exchange committees concerning the exact amount to be paid in individual cases and on all other questions arising in connection with the middlemen's purchases. At the same time the Council made it clear that the traders retained their right to deal in grain on their own account, provided they acted in accordance with the rules laid down by the commissioners and did not come into conflict with their general policy.[1]

At the beginning of the War when the whole mechanism of the home trade in grain was in working order and the export section of it was reduced to compulsory idleness, the persons responsible for government purchases, in their anxiety to safeguard the interests of the State and the producers, did their utmost to prevent the traders from having any share in the work. But as the scope of it and the attendant difficulties increased, government agents understood how vast and complicated this task was and how impossible it was for them to grapple with it unaided. They then sought the private dealers' help, but by that time the latter's business had already suffered from enforced inactivity and from the general conditions which made private trade in grain well-nigh impossible.

The nature of these conditions may be gathered from the answers to the questionnaire sent out to the municipalities by the Special Council for Food Supply at the end of December, 1915. Many of the town councils pointed out that, owing to the disorganization of transport, practically no grain was sold for future delivery; the owners agreed to part with it only if it could be put into trucks straight away, and since trucks were often not available no bargains could be made. This shows that as early as December, 1915, normal trading operations had become practically impossible.

With the increase of government regulations and transport difficulties, grain dealers had to devote more and more of their energies to evading the various restrictions and prohibitions rather than to carrying on their trade in the usual manner.

This state of things proved to be particularly unfavorable to sound, well-established firms, which gradually gave up trading in grain altogether, finding it impossible to go on in the circumstances created by the War. On the other hand a different type of trader, bolder and less scrupulous, found the circumstances propitious and began to speculate in grain; the extraordinary increase in the value

[1] *Novoe Vremya,* September 23, 1916.

of the commodity and the difference between the prices in different markets made such speculation highly profitable.

It was characteristic of the grain market during the War that private trade gradually stopped and what remained of it became more and more of a gamble, aiming solely at the quick realization of enormous profits under conditions that hindered and restricted its activities to an ever increasing extent. The introduction of the government monopoly of grain dealt a final blow to private grain dealers.

Credit.

The Government's policy with regard to purchasing grain necessarily affected the system of buying on credit.

At the beginning of the War the State Bank almost completely ceased to lend money on the security of grain in the war zone, while in other districts the maximum amount of loans was diminished and only the actual producers and millers were entitled to any loans at all.[2] Grain dealers could thus obtain no advances from the State Bank and, in consequence, the loans issued by it, on the security of agricultural produce, chiefly grain, were reduced in 1914 by 21.8 per cent, and in 1915 by 55 per cent, falling to no more than 112 million rubles.[3]

Before the War private banks did much more than the State Bank in the way of giving credit on the security of grain. Now, however, they also followed in this respect the policy of the State Bank, with the exception, of course, of those banks that supported the profiteers. The amount of loans advanced by private banks on the security of grain was as follows:

ADVANCES BY PRIVATE BANKS ON THE SECURITY OF GRAIN[4]

Years	*Amount advanced (in millions of rubles)*	*Index numbers*
1913	876.4	100.0
1914	655.8	74.8
1915	549.6	62.7

[2] *Explanatory Memorandum* (*Zapiska*) of the Minister of Finance on the draft budget for 1915.

[3] *Statistics of the Agriculture of Russia and of Some Foreign Countries,* 1917.

[4] Kondratev, *op. cit.*

Such reduction in credit was bad enough in itself, but the continual rise in the price of grain must have made it even more serious.

In the summer of 1915 the question of policy to be observed in the coming year with regard to loans on the security of grain was discussed by the representatives of the appropriate government departments, and the chief banks and trade-exchange committees. They agreed that it was a mistake to make any restrictions, and it was decided to establish uniform rules for the advance of money on the security of grain without drawing any distinction between the different categories of clients, as had been done hitherto. The amount of loans was fixed at 66 per cent of the fixed price on the security of grain in store and 80 per cent on the security of bills of lading.[5]

We see then that credit had at first been practically refused to grain dealers, and by the time it was understood that restrictions of any kind were unnecessary, firms of good standing had been reduced to almost complete inactivity.

In 1916 the State Bank advanced on the security of grain 50.5 million rubles, of which 40.4 million rubles were loaned directly, 3.1 million rubles through the agency of railway companies, and 7 million rubles through other agencies; that is one-fifth of the amount advanced in 1913, and only one-fourth of that advanced in 1914, in spite of the very great rise in prices. When the government monopoly of grain was introduced in 1917, loans on the security of grain were altogether forbidden.

Disorganization of Transport.

The chief cause of the unfavorable position of the Russian grain market during the War was the disorganization of transport; the subject deserves, therefore, our special attention.

It has already been pointed out that since Russia is sharply divided into two regions, the producing region, with a surplus of grain, and the consuming region, where there is a shortage of grain, a proper organization of transport is of the utmost importance for the country. When the War began, a new enormous center of consumption was created at the front, that is, on the western frontier, and there was a great increase in the needs of the towns, especially of Petrograd, Moscow, and the industrial centers. It became, there-

[5] *Novoe Vremya,* July 22, 1916.

fore, urgently necessary to carry grain to the western part of the country, whither all other goods needed for the army had also to be sent.

It must be remembered that Russia had been badly provided with railways before the War. The Minister of Transport, Trepov, pointed out in the Duma on March 15, 1916, that "Russian railways had no reserve of rolling stock, and the number of trains that could be run was strictly limited, so that even in peace time the transport needs of the country could not be met." The network of railways, insufficient as it was, was very unevenly distributed over the territory. It was densest in the west and in some of the provinces of the industrial district; the north and also the south and southeast, whence grain used to be sent to the non-producing regions were very poorly provided with railways. In districts adjoining the western frontier there were 25–30 versts[6] of railways, and in the province of Moscow 40 versts of railway, to every 100 square versts[7] of territory. But in the Don Territory, which was one of the richest in grain, there were only 13.1 versts of railway to 100 square versts of territory: in the province of Simbirsk, 14.5 versts; in the province of Nizhni-Novgorod, 7.2 versts; in the province of Ufa, 5.9 versts; in the province of Kazan, only 2.6 versts, and so on.[8]

Thus, the part nearest the front was best supplied with railways, but as one went further east the railways were fewer and fewer (with the exception of the Central Industrial region). East of the line Petrograd–Moscow–Kharkov–Sevastopol the transport facilities were less than one-third of what they were in the western provinces.[9] Moreover, during the first years of the War the region southeast of the Volga and also the whole of Siberia and Turkestan were joined to the rest of the Russian railways by one single bridge across the Volga. On the railways in the region occupied by the army and near it, some 22,000 versts altogether of railways were, on mobilization, reserved almost exclusively for military purposes, and passed into the management of the army headquarters, which also received a considerable amount of rolling stock from the in-

[6] One verst = 0.7 mile.

[7] One square verst = 0.4 square mile.

[8] See *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

[9] S. N. Prokopovich, *op. cit.*

terior of the country, where the railways remained under the control of the Ministry of Transport. An enormous quantity of goods had to be brought to the front, but the wagons were not always returned, and by June, 1915, the number of wagons that the army headquarters owed to the railways reached 35,000.[10]

Since all other means of communication with foreign countries had been closed, goods imported for the needs of the army and to some extent of the civilian population had to be sent through Archangel, Murmansk, Finland, and Vladivostok. Exports from Russia were also sent by these routes, especially through Archangel. This meant that a great deal of rolling stock had to be set aside for the purpose and that the railways had to work at high pressure.

All these circumstances had a detrimental effect on the railways controlled by the Ministry of Transport, especially as the conditions under which the urgent transport of troops and army goods had to be carried on often made it impossible to make economical use of the available rolling stock. Commercial traffic was disorganized, because army freights were always given precedence.

So it was precisely the part of the railway system which had been but feebly developed before the War that now had to work under particularly trying conditions.

The Government took energetic steps to increase the amount of rolling stock and gradually succeeded in making the railways more efficient than they had been before the War. The distance covered by a railway carriage during the first two years of the War was more than half as much again what it had been before the beginning of hostilities.

In spite of this increase in efficiency, however, the railways were far from being able to meet the increasing demands upon them. Commercial transport suffered most; the rapid decrease of it can be seen from the following statistics of goods carried by rail.

TRANSPORT BY RAIL[11]

Years	*All consignments except those intended for the army*		*Grain, flour, etc.*		*Grain*	
	Quantity (in thousands of puds)	*Index numbers*	*Quantity (in thousands of puds)*	*Index numbers*	*Quantity (in thousands of puds)*	*Index numbers*
1913	7,984	100	1,297	100	792	100
1914	6,636	83.1	1,082	83.5	627	79.3
1915	5,376	67.3	847	65.4	433	54.7

[10] Kondratev, *op. cit.*

[11] *Ibid.*

The transport of grain decreased more rapidly than that of any other goods. Grain for transit accumulated at railway stations, blocking the lines. In 1915 the amount of grain lying at stations was two and a half times as large as in pre-war days, and in 1916 almost three and a half times.

This explains why the towns began to suffer from delays in obtaining grain at a time when the army still received more than it required. Thus, for instance, according to the information received by the Commissioner for supplying Petrograd with essential commodities, on October 1, 1915, more than two million consignments of provisions, intended for the capital, were lying at intermediate stations. Between October 5 and October 15, 1,925 truckloads were to have arrived in Petrograd, but only 1,161 truckloads actually arrived, that is, almost 40 per cent less than was expected. It was not until special officials had been dispatched to stations that were particularly badly blocked that they succeeded in getting a considerable number of trucks forwarded to their destination.

Dislocation of transport was thus clearly noticeable in the second half of 1916, when, on the whole, railways were being improved; from that period onward, however, transport rapidly grew worse, especially after the Revolution. Shortage of metals, defective repair of the rolling stock, less productive labor on the part of the workmen, and so on, made the railways less and less efficient.[12]

The transport of goods for the army, including grain, was much better organized; the difficulties with regard to it did not begin to be felt till after the Revolution of February, 1917.

Nothing has been said about waterways, because they were of much less importance for transport than the railways, and because very little is known as to the volume of traffic that they carried during the War. In any case, it is certain that war had an unfavorable effect upon transport by water also, and that water traffic in no way made up for the deficiencies of the railways.

Dislocation of transport on the one hand destroyed the regular communications between the non-producing and the producing regions from which the former obtained their supplies of food, and often completely isolated the two; on the other hand, it made it impossible for grain dealers to know with certainty when they would receive the grain they had purchased or send off the grain they had

[12] See Prokopovich, *op. cit.;* also Struve, *op. cit.*

sold. It is, therefore, easy to understand that the dislocation of transport should have had such a disastrous effect upon the condition of the grain market and the food supply of the country as a whole.

Regulation of Transport.

During the early months of the War provisions were carried in accordance with the general rules of goods traffic and no special rules were issued with regard to them. Army freight had precedence over everything else, while other goods had to wait their turn in the usual way.

But the idea that State regulation was beneficial and necessary to the economic life of the nation in all its aspects[13] soon found its way into this domain also, especially as the abnormal war conditions made transport a matter of first importance. On July 27, 1915, the Minister of Transport issued the rules of priority to be observed in the carriage of various goods: provisions were to come *last*. At the end of 1915 the system of "transport according to plan" was introduced, and developed with considerable success in February, 1916.

In practice, of course, these regulations worked out very differently from what they did on paper, and the stricter the rules, the less applicable they proved to be.

In any case all these measures for introducing order and system into the transport of provisions certainly succeeded neither in preventing nor in delaying the disastrous consequences of the dislocation of the railways upon the food supplies of the country.

The position was considerably aggravated by the widespread prohibitions of the consignment of grain from one part of Russia to another.

The right to prohibit the removal of agricultural produce from places under martial law legally belonged to army commanders only. But under the Imperial decrees of August 29, 1914, and of February 17, 1915, this right was considerably extended: the commanders of military districts were also empowered to prohibit the

[13] The psychology underlying this conception is very complex and interesting; no doubt the example of the western belligerent Powers and, in particular, of Germany, must have had some influence. It would be out of place in the present work to analyze the psychological motives of the State regulations and we confine ourselves, therefore, to facts.

removal of food supplies from areas selected by them in agreement with the governors of provinces and the commissioners of the Department of Agriculture and the State Audit Department. Such prohibitions could now be issued throughout the whole of the Russian territory.

Commanders of military districts and other officials who enjoyed the same privileges made an extensive use of this power. In localities with a surplus of grain they did so in order to retain the supplies and thus make it easier to secure grain for the army; in regions that suffered from a shortage of food the object of prohibiting the removal of grain was to keep the available supplies for the local population and prevent a rise in prices. Prohibitions were often issued when there was no real need for them, under the influence of fears that were wholly groundless, and, for the most part, without any previous arrangement with the authorities in the neighboring region, or any consideration of the economic conditions in a given locality. Thus it happened, for instance, that regions where the milling industry was developed were cut off from those which supplied them with grain, big centers of consumption were cut off from the nearest points whence grain could be supplied to them,[14] and the shipment of wheat was suspended in spite of there having been a surplus of it in the country at the beginning of war. The prohibitions were removed and then, after a short time, reintroduced; the sphere of their application was made wider or narrower, and so on. All this, of course, had a most unfavorable effect upon the grain market, isolating some of the regions, with the consequence that prices were very uneven. Traders, therefore, protested against the prohibitions. In their note to the Minister of Commerce and Industry, at the beginning of March, 1915, the Permanent Council of the Congresses of Representatives of Trade and Agriculture pointed out that the prohibition of the removal of foodstuffs from the various localities seriously interfered with commercial business, not only in the localities in question, "but still more in those centers of consumption which receive the necessary supplies from places that have a surplus."[15]

At the beginning of April the Congress sent a telegram to the

[14] Kondratev, *op. cit.*

[15] *Torgovo-Promishlennaya Gazeta* (*The Journal of Commerce and Industry*), March 11, 1915.

Minister of Commerce urging him to cancel at once the prohibition of shipment from the chief grain-producing regions on the Volga, Don, and in western Siberia, for

> otherwise it will be impossible to make use of spring floods and dispatch grain collected on the upper reaches of rivers; the grain will then have to stay where it is, and yet both there and at railway stations there are great accumulations of damp grain which cannot be kept after the warm weather comes, and also of grain unsuitable for the army, but intended for the provinces that greatly need it.[16]

The Government did its utmost to keep the prohibitions within the limits justified by real necessity. Thus, for instance, in his telegram of March 20, 1915, the Minister of Agriculture asked the commanders of the Moscow and Kazan military districts to cancel their prohibitions of the export of wheat in view of there being a surplus of it in the country; and to insist on the governors

> freely allowing the shipment from their provinces of rye, wheat, wheaten and rye flour lying at railway stations, if these consignments were intended for Petrograd or Moscow or had been pronounced by the commissioners of the Department of Agriculture to be unfit for the army.[17]

On March 30 the Minister of Commerce telegraphed to the Commanders of the Moscow, Kazan, and Omsk districts, and the officer commanding the Don Cossacks, to cancel the prohibitions of the removal of foodstuffs and fodder with the exception of oats.[18]

But it was not until the Special Council for Food Supply was created that the restrictions on the shipment of grain were to some extent regularized. It was provided by the law constituting the Council (article 17) that in future prohibitions of shipment might be issued by military commanders only with the permission of the Chairman of the Special Council. On November 23, 1915, an Imperial decree was issued, directing the Army Supply Department not to prohibit the shipment of foodstuffs from the provinces remote from the front without the previous consent of the Chairman of the Special Council.[19]

[16] *Novoe Vremya,* April 11, 1915.
[17] *Ibid.,* March 21, 1915.
[18] *Ibid.,* March 31, 1915.
[19] *Ibid.,* December 4, 1915.

In spite of all this, however, local authorities continued in some of the provinces to issue prohibitions on their own initiative, contrary to law. This can be seen from the fact that in August, 1916, the Minister of Agriculture sent telegrams to all governors and governors-general asking them to cancel all such prohibitions.[20] The right of issuing embargoes was still held, however, by the Chairman of the Special Council and by his Commissioners.[21]

Change in Prices.

Before the War the price of grain on the Russian market was determined mainly by two factors: (1) by the state of the world grain market, which affected the prices of grain in Russia; (2) by the supplies of grain that directly depended upon the harvest in the producing regions.

The prices in ports were, as a rule, much higher than in the interior of the country, especially those of barley and wheat, the two chief varieties of cereals exported. The difference exceeded the cost of transport plus other incidental expenses.

During the War the export of grain ceased almost completely and the Russian grain market was isolated from the world market. The condition of the latter could not therefore affect the prices of grain in Russia and these were necessarily determined by the condition of the home market alone.

Consequently, as has already been stated, fears were entertained of a considerable fall in the price of grain, especially of wheat and barley. These fears, however, proved groundless, and by the end of 1914 the price of grain began to rise at a continually increasing rate, the rise being greater in the interior than at the ports. This was due to a number of causes, but mainly to the disturbance of the balance between supply and demand, to the general increase in the cost of production, to the disorganization of transport and the interference with the free circulation of grain—which destroyed the unity of the market and resulted in a growing isolation of the separate parts of it, to the depreciation of the paper currency, to the mistaken policy of the Government with regard to certain aspects of food control, etc.

The following table gives an idea of the increase in the price of

[20] *Ibid.*, August 9, 1916.

[21] Clause 19, article 10 of the Law constituting the Special Council.

grain. It gives the index number of the autumn prices of rye, wheat, oats, and barley, the average prices of 1909–1913 in (I) the black-soil regions and (II) the less fertile regions[22] being taken as the base. This table, as well as all those which follow, gives only the non-controlled prices, which alone reflected the true state of the market. The fixed prices of 1915–1916 were introduced solely for government purchases and were, on the whole, fairly near to the non-controlled prices; and the fixed prices of 1916–1917 could not have had much practical importance in view of the conditions under which they were introduced.

INDEX NUMBERS OF PRICES OF RYE, WHEAT, OATS, AND BARLEY

	Rye		*Wheat*		*Oats*		*Barley*	
Years	*I*	*II*	*I*	*II*	*I*	*II*	*I*	*II*
Average for 1909–1913	100	100	100	100	100	100	100	100
1914	101	113	98	114	125	142	110	125
1915	141	182	123	180	168	219	146	182
1916	226	282	235	240	291	345	250	292
1917	1,146	1,661	1,119	1,826	1,320	1,911	1,216	1,556

This table shows that the increase in prices was greatest in 1917, when all the above-mentioned circumstances, which were the causes of it, were most pronounced. The price of wheat increased much more than that of rye, although rye was the chief article of national consumption; this was probably due to the fact that during the War peasants became more prosperous and used more wheat than they had done before. Oats increased in price more than any other grain used for fodder and this was no doubt due to the acute shortage of it that had prevailed almost from the very beginning of the War.

Even before the War, of course, the price of grain was somewhat lower in the black-soil regions than in the less fertile parts of the country; the difference in price was due not only to the cost of transport, middlemen's profits, and so on, but often to the purely local conditions. Prices in the producing regions depended upon local harvests and fluctuated more from year to year than prices

[22] Kondratev, *op. cit.*

in the less fertile regions, which depended upon the harvests in the Empire as a whole.

But in peace time this difference had never been so great as it was during the War. This was chiefly due to the fact that in war-time the different markets were isolated from one another and the demand in the non-producing regions had greatly increased. The position can be clearly seen from the following table which gives the local autumn prices of rye and oats, the two chief cereals used for home consumption, in (I) the Industrial, and (II) the Central Agricultural regions, which are representative of the non-producing and producing regions respectively.

PRICE OF RYE AND OATS[23]

Years	*Rye* *I*	*II*	*Difference*	*Oats* *I*	*II*	*Difference*
			(*copecks per pud*)			
Average for 1909–1913	92	75	17	70	65	5
1914	106	89	17	100	81	19
1915	161	116	45	168	109	59
1916	264	168	96	278	169	109
1917	2,630	914	1,716	2,124	826	1,298

Thus, while in the years 1909–1913 the difference in the price of rye in the two regions was only 17 copecks, and of oats 5 copecks, or, in other words, was 22.6 per cent and 7.7 per cent of the Central Agricultural region prices, it rapidly increased during the War; in 1916 was as much as 57.1 per cent and 64.5 per cent respectively, and in 1917, 187.7 per cent and 157.1 per cent. The price of rye in the Industrial region had gone up by 64 per cent between 1915 and 1916, and by 896 per cent between 1916 and 1917; in the Central Agricultural region the increase for the corresponding years was only 45 per cent and 444 per cent.

With regard to the increase in the price of other produce of farming the data at our disposal are very incomplete. The following were the autumn prices of beef and mutton in (I) the black-soil regions and (II) the less fertile parts of the country.

[23] The figures for the period 1909–1916 are taken from *Statistics of the Agriculture of Russia and of Some Foreign Countries;* the figures for 1917 are taken from Kondratev, *op. cit.*

PRICES OF BEEF AND MUTTON[24]

Years	Beef I	Beef II	Mutton I	Mutton II
	(in copecks per pud)			
Average for				
1909–1913	462	450	410	426
1914	436	431	413	409
1915	586	779	548	787

This table shows that in 1914 the prices of beef and mutton were lower than in normal times (1909–1913). In 1915, however, the price of beef in the non-producing region rose by 73 per cent as compared with the normal, and the price of mutton by 84.7 per cent. In particular regions prices in 1915 were even higher; thus, for instance, in the Industrial region beef was 839 copecks per pud and in the Baltic provinces 935 copecks per pud.

In Petrograd and Moscow, which were the chief centers of meat consumption, the average yearly prices of meat were as follows:

PRICE OF MEAT[25]

Years	In Petrograd: Best fresh meat	In Petrograd: Second best	In Moscow: Best fresh meat	In Moscow: Second best
	(copecks per pud)			
Average for				
1906–1910	601	482	556	462
1913	714	611	660	540
1914	718	579	657	515
1915	877	741	816	708

In this case, too, there was an increase though not so great as in the case of autumn prices.

There are no statistics of the wholesale prices of meat for the two years that followed, but there is every reason to suppose that they went on increasing, as did the price of grain. Thus, for example, the retail prices of beef in Moscow increased by 271 per cent as compared with 1914 and of mutton by 281 per cent.

Some data are available with regard to the wholesale prices of butter and eggs in certain localities during the period 1913–1916; the increase of prices can be seen from the following figures:

[24] See *Statistics of the Agriculture of Russia and of Some Foreign Countries.*

[25] *Ibid.*

PRICE OF BUTTER AND EGGS[26]

Years	*Butter (from Vologda)* *Moscow*	*Petrograd*	*Eggs* *Moscow*	*Petrograd*
	(copecks per pud)		*(copecks per thousand)*	
1913	1,734	1,693	3,002	....
1914	1,758	1,719	2,691	2,222
1915	2,481	2,281	3,172	3,106
1916	5,873	5,945	5,667	5,064

These two staple articles of food were also subject to a great and continuous increase of price. In 1916 there was an enormous rise as compared with 1915; butter was almost two and a half times as dear. In 1916 the rise from month to month was greater still. The price of butter in Petrograd was at its lowest in May (3,650 copecks per pud), and in December it rose to 12,000 copecks. Eggs were cheapest in June, at 4,306 copecks per 1,000, and in December they were 8,102 copecks.

Correlation between Industrial and Agricultural Prices.

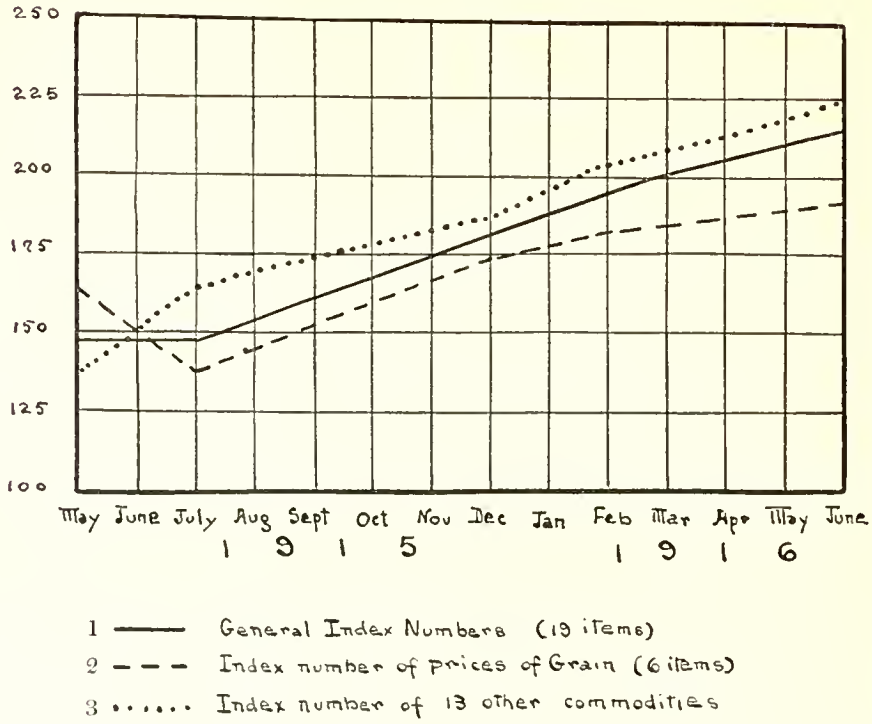
To understand the true significance of the increase in the cost of the staple articles of food, it is necessary to compare it with the change in the cost of other articles of general consumption.

The correlation during the first two years of war can be seen from the following diagram, based upon data collected by the All-Russian Union of Towns.

[26] Returns of the Department of Customs.

Index Number of Prices, 1915–1916.

(Average prices of nineteen commodities in 1913–1914 = 100.)



In the diagram on the vertical ordinate are indicated the average level of prices (the general index numbers) of the nineteen principal commodities for the period 1913–1914 (the normal period); the lines show the changes in the index numbers of prices in 1915 and 1916; line *1* shows the change in the general index number, line *2* the change in the price of grain (the six main varieties of it), and line *3* the change in the price of the remaining thirteen commodities.

It can be seen from the diagram that, from the summer of 1915, the prices of commodities increased rapidly; the only exception was grain, the price of which in July was lower than it had been in May; it then began to rise, but less rapidly than the prices of other goods. The index number of grain prices remains all the time below the general index number and in 1916 the rate of its increase slows down. With other commodities the position is different: at first their price is lower than that of grain, but already by June, 1915, they exceed it and then continue to rise uninterruptedly, following the general index number, but always remaining above it. These com-

modities include cheap cotton materials, salt, cast iron, matches, boots and shoes, and other articles needed by the peasantry.

Such a correlation of prices was unfavorable to farmers and the situation was made worse by the fact that owing to the State regulation of markets and transport it was an extremely difficult and complicated business for the peasants to sell their grain.

The position changed in 1917, when the price of grain suddenly went up. The correlation of grain prices during that year with the prices of the chief commodities needed by the peasantry may be gathered from the following considerations. In fifteen provinces of European Russia, the price of rye in the autumn of 1917 was 1,844 per cent, and the price of oats 1,463 per cent, higher than in the autumn of 1914. Between August and November, 1917, the price of printed cotton in Moscow exceeded by 1,592 per cent, and the price of unbleached cotton by 1,408 per cent, their price in 1914; men's boots in 1917 were 1,000 per cent dearer than in 1914. In central Russia and in Moscow in 1914 sheet iron was 618 per cent dearer, and wire 1,225 per cent dearer, than in 1914; cheap tea went up in price 646 per cent. Thus in 1917 grain rose in price more than any other commodity required by the rural population.

CHAPTER X

EXPLOITATION OF FORESTS BEFORE THE WAR

The Area under Forests and Its Distribution.

Russia is one of the best wooded countries in the world. According to the figures given by the Department of Agriculture, the whole area under forest before the War amounted to 488,662,000 deciatines, which were distributed as follows: 165,089,000 deciatines in European Russia, 7,456,000 in the Caucasus, and 316,117,000 in Asiatic Russia. This area, however, includes in addition to forests, also marshes, sandy wastes, rivers, and lakes; thus in European Russia about 21 million deciatines described as being under forest were waste lands, marshes, rivers, and lakes, scattered among the forests belonging to the Crown.[1]

In spite of this, however, the figures given above do not exaggerate the area under forest in the Russian Empire, for they do not include enormous tracts of forest in Asiatic Russia that had not been surveyed before the War. The size of these may be gauged from the fact that nearly a half of the Yakutsk province, which is almost as big as the whole of pre-war Russia in Europe, was under forest; it was only in the years immediately preceding the War that 45 million deciatines of forest had been surveyed there. Besides, there were huge forests in the province of Irkutsk and Yeniseisk and in the Far East that had not been surveyed.

In the whole of the northern hemisphere the area of forests suitable to meet the demand for timber in the world market was approximately 1,111.5 million deciatines.[2] Russian forests, which at the lowest reckoning occupied 488 million deciatines, formed 43.9 per cent of that area. Canada came next (26.7 per cent), then the United States (20.2 per cent), Sweden and Norway (2.2 per cent),

[1] *K voprosu o sovremennom polozhenii russkoi exportnoi lesnoi torgovli* (*Present Condition of the Russian Export of Timber*), published by the Department of Agriculture, St. Petersburg, 1913; also *Lesnaya torgovlya i torgovie dogovori s inostrannimi gosudarstvami* (*Timber Trade and Trade Agreements with Foreign Countries*), a report presented to the First All-Russian Congress of the representatives of timber trade, St. Petersburg, 1914.

[2] *Present Condition of the Russian Export of Timber.*

and other countries (7 per cent).[3] These figures clearly show that Russia was of first rate importance for the supplying of timber to the world market.

A considerable part, however, of these 488 million deciatines was not exploited. This was the case in the little accessible forest districts of northern Russia, in many forest areas of the Caucasian mountains, and in numerous forests of Asiatic Russia situated in remote and sparsely populated districts having no communication with the markets.

Forests were distributed throughout Russia very unevenly. Before the War the wooded area constituted 34 per cent of the whole expanse of European Russia and 23 per cent of the Caucasus.[4] It is difficult to give any figures about Asiatic Russia, since its forests have been but little investigated.

The best wooded part of European Russia is the north, between 56° and 67° north latitude. Further south, and especially southeast, fewer and fewer forests are found, and there are practically none in the steppes of the south and southeast.

The five northern provinces, Archangel, Vologda, Vyatka, Olonets, and Perm, are the richest in forests; they contain some 55 per cent of all the forests in European Russia. The Vologda province is the most wooded of all; 82.8 per cent of its area is forest. The province of Perm comes next, 56.3 per cent of its area being forest. In the province of Olonets the figure is 48 per cent, in the province of Archangel it is 44 per cent, and of Vyatka 40 per cent.

Further south, in the provinces of Vladimir, Kostroma, Novgorod, and Petrograd, not more than 40 per cent of the total area is under forest. In the central provinces forests occupy between 20 per cent and 30 per cent of the whole area; in the Crimea, Bessarabia, and the provinces of Tula, Samara, Kharkov, Voronezh, and Kursk, forests take up less than 10 per cent of the ground; in the province of Kherson only 1.5 per cent, and in the Territory of the Cossacks of the Don only 1 per cent.[5]

[3] *Ibid.*

[4] The figures relating to the distribution of forests are taken chiefly from a pamphlet by V. Faas, *Aperçu sur les forêts, le commerce et l'industrie du bois en Russie,* published by the Department of Agriculture, St. Petersburg, 1913.

[5] Brockhaus and Efron's Encyclopaedia and the pamphlet *Les richesses forestières de la Russie,* published by the Department of Agriculture, St. Petersburg, 1907.

Principal Varieties of Trees.

All kinds of trees grow in Russia, both evergreen and deciduous, but it is particularly rich in spruces and pines and, to a lesser extent, in oaks, that is, in the very kinds for which there is a particularly large demand in the world market.

Pine forests predominate in the region that extends from the Arctic Ocean and the White Sea down to latitude 56°. In the eastern part of this region not only spruce and pine but also larch, Siberian fir, and cedar, are found. Between 56° and 52° pine forests are gradually replaced by forests of deciduous trees, although pines are found as far south as the steppes, and spruce grows between latitudes 55° and 50°. Oak does not grow either in the north of European Russia or beyond the Urals. South of latitude 55° it is found in greater quantities than other trees. There are huge oak forests in the Caucasus.

Of other kinds of trees, silver birch is the most prevalent; it grows everywhere, often among pines and especially among spruce. Masses of hazel, aspen, lime, beech, and maple also grow in Russia.

Ownership of Forests.

Forests were divided according to ownership into Crown forests and those owned by public bodies and private persons. Crown forests were divided into (1) those managed by the Forestry Department of the Department of Agriculture, and (2) those given over to various other government departments (Mining, War, etc.), to monasteries, to non-Russian communities within the Empire, to the Cossacks, and so on. Forests belonging to the Imperial Appanages, to His Majesty's Cabinet,[6] and to the members of the Imperial Family were regarded as privately owned.

Three hundred and thirty-five million deciatines or 68.5 per cent of the total area under forests were managed by the Forestry Department. Of these 106.4 million deciatines or 21.8 per cent of the total area of forests were situated in European Russia; 4.9 million deciatines or 1 per cent, in the Caucasus, and 225.9 million deciatines or 46.0 per cent in Asiatic Russia. A considerable part of the remaining 153.6 million deciatines belonged to the Crown, Imperial Appanages, or his Majesty's Cabinet (for instance, some 20 mil-

[6] See p. 18, n. 12.

lion deciatines in Asiatic Russia), or to churches, monasteries, towns, and so on. Comparatively few forests in European Russia, hardly any in Siberia or the Far East, belonged to private persons.

Only about a third of all this enormous forest area had been surveyed and not more than 8.7 per cent of it was properly managed. It was chiefly in European Russia that the work of surveying the forests and keeping them in good order was carried on; in Asiatic Russia only 2 per cent of all the forests were properly looked after, and only 15 per cent of them had been surveyed.[7]

Revenue from Forests.

During the four years immediately preceding the War the revenue from forests was as follows:

FOREST REVENUE[8]

Years	*Amount (in thousands of rubles)*	*Increase as compared with the preceding year (percentage)*
1909	63,924	...
1910	72,123	12.8
1911	80,361	11.4
1912	84,588	5.3
1913	92,376	9.2

These figures include both the revenue from the sale of timber, etc., in the Crown forests and from fines for infringement of forest laws. The fines, however, did not amount to much and never exceeded one million rubles a year. The bulk of the revenue came from the sale of timber.

The above data show that the revenue from forests increased considerably every year. Between 1909 and 1913 it had grown by 44.5 per cent. Considering, however, the huge area under forest, the profits made by the Crown were but small. If we deduct from the gross revenue the expenses, which formed about a third of it, we shall find that net profits never amounted to more than 60 million rubles a year.

[7] *Statisticheski ezhegodnik Rossii* (*Statistical Yearbook of Russia*), published by the Central Statistical Committee, Petrograd, 1915.

[8] *Explanatory Memorandum* (*Zapiska*) on the budget for 1915.

This revenue was derived from different parts of the country at very unequal rates; it was highest in Poland, where it averaged 12.05 rubles per deciatine of forest; in the central provinces it was only 4.99 rubles and in the north only 7 copecks per deciatine.[9]

Revenue from forests occupied a very humble place among other State revenues; thus in 1911 it formed less than 2 per cent of the whole.

Laws Concerning the Preservation of Forests.

Until the Bolshevik Revolution a special "Statute concerning the preservation of forests" was in force in Russia. It provided against the destruction of forests and encouraged good management and afforestation. Special measures were included in respect of forests which it was considered necessary to preserve intact for national or public benefit. Such forests were declared to be under special protection; it was forbidden to put the area occupied by them to any other use. For each of them the Government adopted a plan of management and no trees were to be felled except in accordance with this plan; sometimes it was forbidden to cut down young trees wholesale, and they might be cut only in rotation, on condition that fresh ones were planted in their stead, and so on. To make up for these restrictions, forests under special protection were exempt from rates and taxes.

It was the duty of the Forestry Department of the Department of Agriculture to see that the regulations with regard to forests were observed; the immediate task of supervision was entrusted to special forest preservation committees appointed in every province.

Before the War the committees had charge of the following areas of forest:

[9] *K voprosu ob ekspluatatsii severnikh lesov* (*Exploitation of Northern Forests*), in *Torgovo-Promishlennaya Gazeta,* 1916, No. 4.

FOREST CONTROLLED BY THE FOREST PRESERVATION COMMITTEES[10]

Owners	*European Russia*	*Caucasus* (*area in deciatines*)	*Total*
The Crown	54,276,900	1,573,600	55,850,500
Imperial Appanages and Mining Departments	7,184,100	75,500	7,259,600
Churches, monasteries, municipalities	1,159,900	24,600	1,184,500
Peasant communities	13,107,300	175,600	13,282,900
Private owners	35,766,500	833,400	36,599,900
Total	111,494,700	2,682,700	114,177,400

Home Trade in Timber.

Great quantities of timber were used in Russia: (1) for building, since most buildings were of wood except in big cities; (2) for industrial purposes; (3) for fuel, since wood was used not only for domestic purposes, but also in factories and foundries and on many of the railways that passed through forest areas far from coal fields. As industry developed and more railways were built more and more wood was being used.

The biggest forest owner—the State—sold forests for felling; the Forestry Department undertook comparatively little felling on its own account and that only for the needs of the State railways and various government institutions, or to provide work for the population of famine-stricken districts. Forests for felling were sold to the highest bidder for a period of one or two, and never more than four, years. The Imperial Appanages and large private owners usually did the same.

It is difficult to say exactly how much trade in timber was done in Russia, for there are no statistics on the subject. Some approximate calculations, however, are of help. Thus, for instance, the yearly turnover in the chief centers of the home trade in timber was reckoned before the War to have been 300 million rubles.[11] According to other data the yearly turnover in the home timber trade was, for the whole of Russia, 450 million rubles.[12] This last figure gives a more comprehensive idea of the situation, for it includes the turn-

[10] *Statistical Yearbook of Russia,* 1915. [11] Faas, *op. cit.*
[12] *Novoe Vremya,* February 27, 1915.

over not only in the big centers but throughout the country, in so far as this can be done at all.

The timber trade was carried on both by firms who had their own sawmills and by purely commercial concerns. Timber merchants either carried on the business singly or formed private companies. Joint-stock companies were but seldom found among them. In 1911 there were only fifteen joint-stock companies engaged in the timber trade, and in the case of eight of these it was not their principal business; of the remaining seven, one company had a capital of 5 million and one of 3 million rubles; the capital of each of the others did not exceed one million rubles.[13]

At the great centers of the timber trade business was generally carried on wholesale. Customers in need of small quantities of timber had to buy from district merchants, who dealt almost exclusively through commercial travelers; the latter visited the most remote and out-of-the-way places. From the sawmills timber was sent both by rail and by water, and it made a great difference both to the home and the export timber trade whether there were any navigable rivers near the forests.

A glance at the map of European Russia shows that the rivers on the north and the west are of far more importance for the export than for the home timber trade; for they all run toward the ports of the Arctic Ocean, White Sea, and the Baltic, through which most of the timber was exported.

The two great rivers in the northern forest area, the Northern Dvina and the Pechora, flow through wild, sparsely populated regions, where there are no towns of any size and few villages. The timber from the basin of these two rivers was chiefly sent down the Northern Dvina to Archangel and thence abroad; only a small part of it was sent down the tributaries of the Volga to be sold within the country.

St. Petersburg was one of the main centers of timber consumption in the northwest, and a great deal of export trade in timber was also done through it, as well as through Kronstadt. Timber was sent to St. Petersburg down the Neva and *via* the rivers and canals of the Marinsky system.

The rivers in the well-wooded parts of western Russia—the Western Dvina, the Vistula, the Niemen—were of importance for the

[13] *Yearbook* (*Ezhegodnik*) for the Ministry of Finance for 1913.

home trade in so far as they carried timber to the districts through which they flowed; for the most part, however, they were used for exporting it.

The waterway that was of the greatest importance for the home trade in timber was the Volga and its tributaries, especially the Kama, which flows through well-wooded districts. The Volga basin supplied with timber big centers of consumption lying within it, Moscow, Tver, Kostroma, etc., and to some extent St. Petersburg, through the Marinsky water system. The south of Russia, where there were hardly any forests, was also chiefly supplied from the Volga basin.

In the south, the Dnieper was of great importance for the timber trade, for in its upper reaches it passes through districts rich in forests. Timber was shipped down the Dnieper to the south, where the chief center of consumption was Kiev.

Export Trade.

The amount of timber exported from Russia during the last ten years before the War was as follows:

EXPORTS OF TIMBER

Years	*Quantity (in millions of puds)*	*Value (in millions of rubles)*
Average for the period 1904–1908	315	93.5
1909	424	126.6
1910	417	138.2
1911	417	142.4
1912	426	153.3
1913	464	164.9
Average for the period 1909–1913	430	145.1

This table shows that timber exports rapidly increased both in quantity and in value. If we compare the two five-year averages we shall find that the quantity increased by 36.5 per cent and the value by 55.3 per cent.

In value timber exports occupied the place next to grain. On the average of the period 1904–1908, the value of timber exports amounted to 8.9 per cent of all the Russian exports taken together; for the period 1909–1913 it amounted to 9.6 per cent, and in 1913 to 10.8 per cent. The general value of Russian exports increased steadily from year to year, but the value of timber exported increased at an even more rapid rate.

This rapid increase in the export of timber was due on the one hand to the growing demand for it in foreign markets and to the decrease in the supplies of it in countries that had competed with Russia, and, on the other hand, to the steady though slow improvement in transport and in the exploitation of forests in Russia, so that regions hitherto inaccessible were now open to trade.

Russia's relative position in the world timber trade before the War can be clearly seen from the data collected from 1902 to 1911 by the Swedish Union of Timber Exporters,[14] concerning the supplies of sawn wood in the European market. These data show that at the very time when the supplies from other countries for various reasons diminished, the exports from Russia steadily increased. In 1911 the different countries supplied the world market with timber in the following proportion: Russia (including Finland) 35.7 per cent, the United States and Canada 31.1 per cent, Sweden and Norway 20.7 per cent, Austria-Hungary 12.5 per cent. During the last few years before the War exports from Finland accounted for about one-third of all the timber exported from Russia. If this fact be taken into account, the part of Russia must be reduced to something like 24 per cent.

But in addition to sawn wood Russia exported, as is shown below, almost the same quantity of rough or semi-rough timber, while other countries exported hardly any. It may therefore be said that before the War Russia occupied the foremost position in the world market, or at any rate in the European market, for timber.

This is confirmed by the following figures illustrating Russia's part in supplying the chief timber market of Europe—that of Great Britain—during the last five years before the War:

IMPORTS OF TIMBER TO GREAT BRITAIN[15]

Years	*Total imports of timber*	*Including timber from Russia*	*Proportion of the total imports (percentage)*
	(in loads of fifty cubic feet)		
1909	9,029,700	4,134,300	45.7
1910	9,528,000	4,367,000	45.8
1911	9,134,500	4,326,200	47.3
1912	9,442,600	4,545,200	48.1
1913	10,798,900	5,320,400	49.2

[14] See *Present Condition of the Russian Export of Timber.*

[15] *Annual Statement of the Trade of the United Kingdom,* 1919.

The relative importance of the different European markets for the Russian export trade in timber may be judged from the following figures:

EXPORTS OF RUSSIAN TIMBER[16]

Years	Total exports (in millions of rubles)	To Great Britain (in millions of rubles)	To Great Britain (percentage)	To Germany (in millions of rubles)	To Germany (percentage)	To Holland (in millions of rubles)	To Holland (percentage)
1909	126.6	48.5	38.3	40.1	31.7	15.8	12.4
1910	138.2	58.1	42.1	38.9	28.2	17.9	12.9
1911	142.4	63.4	44.6	39.4	27.7	18.0	12.7
1912	153.4	68.3	44.5	43.4	28.4	18.1	11.8
1913	164.9	66.9	40.7	42.3	25.6	26.0	15.7

Russian timber then was chiefly sent to Great Britain and Germany, which received two-thirds of all the exports.

In 1913 the quantities carried over the different frontiers were as follows: 224 million puds or 48.2 per cent of the total exports of timber were exported *via* the Baltic Sea; 125.7 million puds or 27.1 per cent, across the Russo-German frontier; and 88.1 million puds or 18.9 per cent, *via* the White Sea.[17]

We see then that almost half of the Russian export trade in timber was carried on through the ports of the Baltic. The rest was carried on across the Russo-German frontier and by the White Sea, the ports of which, in spite of being situated in the best wooded parts of Russia, were of comparatively small value to the export trade, because the forests in those parts were little accessible, transport was bad, and so on.

The Baltic ports through which most of the timber was exported were St. Petersburg, Kronstadt, Riga, Libau, Windau, Reval, and Pernow. Riga used to occupy the foremost place among them and, in 1911 for instance, 43.9 per cent of all the timber exported from the Baltic ports was sent from Riga, but later on Petrograd and Kronstadt came to be of more importance.[18]

The chief of the White Sea ports was Archangel, from which almost two-thirds of all the timber sent *via* the White Sea was

[16] See *Present Condition of the Russian Export of Timber;* also *Survey* (*Obzor*) of Russian foreign trade, published by the Department of Customs.

[17] *Ibid.*

[18] See *Timber Trade and Trade Agreements with Foreign Countries.*

shipped, for it is the natural outlet for the whole of the Northern Dvina basin.

Comparatively little timber was exported through the ports of the Black Sea (Odessa, Kherson, Nikolaev) and especially of the Sea of Azov, for the south of Russia is poor in forests and is supplied with timber from other parts of Russia. It was chiefly the valuable oak wood brought down the Dnieper that was exported from the southern ports.

Timber used to be carried by sea to all the countries of western Europe and, overland, to Germany only: 85 per cent of all the timber exported to that country was sent over the Russo-German frontier and the remaining 15 per cent shipped. Most of the timber intended for Germany was rafted down the Niemen and the Vistula into East Prussia. Four-fifths of the exports or some 100 million puds of rough timber were dispatched by that route yearly.

Export of timber through the Far East ports had only just begun to develop before the War; there is undoubtedly a great future before it, as the Amur and the Maritime provinces that lie near them are very rich in forests.

Nearly half of the timber exports consisted of raw materials, which was, of course, very disadvantageous to Russia. About 50 per cent of all the raw material exported was rafted to Germany to be sawed there; this circumstance, highly unfavorable to Russia, was due to the extremely hard terms of the commercial treaty with Germany of 1904, which put a high duty on Russian sawn timber, and partly to the fact that the lower reaches of both the Niemen and the Vistula were in Prussia.

Woodworking Industries.

There had always existed in Russia a number of woodworking industries. Owing to the efforts of the Department of Agriculture, the zemstvos, and other public bodies, peasant industries developed considerably and both their technique and their artistic quality had greatly improved. Peasants made all sorts of articles, from toys, wooden ware, and furniture, to boats. The number of peasants engaged in woodworking industries in European Russia (excluding the Caucasus) exceeded 400,000. Most of them were engaged in making carriages, furniture, barrels, wooden ware, and in building

small wooden boats of the kind used on the big rivers of European Russia.[19]

Machinery was but little used in woodworking industries: in 1912, there were only 2,032 factories employing 101,196 workmen, making a gross revenue of 174 million rubles.[20] Most of this revenue, namely, 126 million rubles, was earned by sawmills; all other works producing wooden articles accounted for less than 50 million rubles. Their output could not, of course, satisfy the demand for wooden articles in a country where very little metal was used by the peasantry, and even spoons, bowls, etc., in villages were, for the most part, made of wood. Peasant industries made good the shortage of the factories' output in this respect.

Sawmills were distributed in the principal regions as follows:

DISTRIBUTION OF SAWMILLS

Region	*Gross revenue (in millions of rubles)*	*Proportion of revenue of all Russian sawmills (percentage)*
Northern	34.2	27.1
Central Agricultural	24.3	19.3
Baltic provinces	19.1	15.1
Central Industrial	12.8	10.1

In these four regions then 71.6 per cent of all the sawmills were concentrated.

If we take individual provinces in the same regions we shall find that the first place was held by the province of Archangel, where the gross revenue of sawmills was 23.7 million rubles; then came the province of Saratov (12.7 million rubles), Petrograd (8.4 million rubles), Livonia (7.5 million rubles), and Novgorod (7 million rubles).

The manufacture of wood pulp and celluloid was even less developed than the manufacture of wooden articles. In 1912 all the factories that produced the former realized only 10.5 million rubles, which is, of course, a very small sum for a country like Russia. Most

[19] *Kustarnaya promishlennost Rossii* (*Russian Cottage Industries*), published by the Department of Agriculture, St. Petersburg, 1913.

[20] *Kratki obzor fabrichno-zavodskoi promishlennosti v Rossii* (*Brief Survey of Russian Manufactures*), St. Petersburg, 1914.

of them were concentrated in Livonia and in the province of Warsaw.[21]

Conclusions.

This short sketch of Russian forestry before the War enables us to formulate the following conclusions:

1. Russia was so rich in forests that she occupied the foremost place among the countries of the northern hemisphere that supply the world market with timber.

2. The northern part of European Russia, where 55 per cent of all Russian forests were concentrated, and Siberia, were particularly well wooded.

3. Russian forests, most of which belonged to the Crown, were left, to a great extent, in a wild state and had been but little investigated, nor were they sufficiently exploited.

4. In spite of this, the Russian timber trade completely satisfied the rapidly increasing demands of the home market and, during the last ten years before the War, the export of timber abroad developed so greatly that Russia furnished most of the timber needed by western Europe, especially by Great Britain and Germany.

5. More than half of the timber exported was shipped from the Baltic ports; some 27 per cent was exported *via* the Russo-German frontier and about 19 per cent *via* the White Sea.

6. Nearly half of the timber was exported as raw material, a fact largely due to the terms of the Russo-German Treaty.

7. Russian forest industries were comparatively little developed; there were not many sawmills and still fewer factories.

[21] *Kratki obzor fabrichno-zavodskoi promishlennosti v Rossii* (*Brief Survey of Russian Manufactures*), St. Petersburg, 1914.

CHAPTER XI

EXPLOITATION OF FORESTS DURING THE WAR

Afforestation and Preservation of Forests.

The War seriously affected the condition of the forest industry. During the five years immediately preceding the War the Government's expenditure on forests increased annually: from 4.4 million rubles in 1909, it rose to 7.4 million rubles in 1913. During the War still larger sums were assigned for the purpose: in 1914, 8.2 million rubles were spent, in 1915, 7.7 million rubles, and in 1916 and 1917 about 8.3 million rubles a year.[1] We see, then, that during the War more care was bestowed upon forests than before.

In 1915, 11.8 million deciatines of forest were brought under regular management. In 1916, 13.4 million deciatines, and in 1917 about 10 million deciatines were to have been similarly treated. Thus, during the three years of war an enormous area of something like 35 million deciatines was to have been organized. The work was carried on chiefly in the north of Russia, where in 1916 some 6.2 million deciatines and in 1917, 5 million deciatines were surveyed, and in Siberia, where approximately 5 million deciatines were surveyed each year, in places where new railways were being constructed and the Forestry Department had undertaken to provide large supplies of timber for the War Office, the railways, etc.

During the War the preservation of Crown forests was much less efficient than in peace time, because many of the keepers had been mobilized and many had left of their own accord, as their wages were extremely low and out of all keeping with the high rate at which labor was then being paid.

Decrease in the Forest Area.

During the War the forest area decreased considerably, in the first instance because Poland, Courland, and the provinces of Vilno,

[1] See draft budget of the Empire for 1915 and 1916; also *Smeta raskhodov Lesnovo Departamenta no 1917 god* (*Estimates of the Forestry Department for 1917*), in the periodical *Lesopromishlennik* (*Forest Industry*), 1917, Nos. 14–15.

Grodno, and Kovno, which contained some two million deciatines of Crown forests as well as many privately owned forests, were occupied by the Germans. The Germans did their best to send to their own country as much timber as possible from these Russian provinces. Thus, for instance, it is stated in the magazine *Holzmarkt*,[2] that in 1916 the Germans succeeded in rafting down the Niemen and its tributaries both the old supplies of timber that they found in the district and the timber prepared during the winter of 1915–1916. They intended in 1917 to send to Germany as much timber from Russia as in the preceding year.

But, to say nothing of the forests within the military zone, those in the provinces nearest it—Vitebsk, Smolensk, Minsk, Volhynia, Kiev, Podolsk, and Kherson—also suffered greatly from being felled for war purposes.

Revenue from Forests.

The gross revenue from forests before the War had been growing steadily and in 1913 reached 92 million rubles. In 1914, as a result of the War, it dropped to 78 million rubles or by 15.5 per cent. We have no data to show how much revenue was actually collected in 1915 and 1916, but the Forestry Department reckoned that it should have been 85 million rubles in 1915 and 75 million rubles in 1916.[3]

During the first seven months of 1917 the revenue was 52 million rubles as against 39 million rubles during the same period in 1916, an increase of 31.4 per cent.[4] So considerable an increase in the gross revenue seems perfectly natural if we consider the activities of the Forestry Department during the War and the increased demand for growing timber on the part of traders.

New Demand for Timber.

When the War broke out private building practically stopped in Russia and the export of timber greatly decreased; consequently

[2] Quoted in *Lesopromishlennik*, 1917, No. 16.

[3] See draft budget of the Empire for 1916.

[4] *Lesnoi dokhod kazni* (*State Revenue from Forests*), in *Lesopromishlennik*, 1917, Nos. 49–52.

the demand for timber fell to a minimum and the trade was almost at a standstill. This condition however did not last long.

The demand for timber soon began to increase and grew more and more urgent as time went on. A great deal was required for the army, the railways, the Unions of Zemstvos and Towns, and other public bodies. Much was also needed for industrial purposes: factories and foundries increased their output and developed new branches of production to meet the needs of the army; as these needs increased, new works and factories were established, and those evacuated from the war zone were transferred to other districts. Consequently in the second year of the War timber for building purposes was very much in demand. But the need for fuel was even greater and the demand for it completely upset the balance of the Russian timber market.

Wood for Fuel.

No exact statistics were kept in Russia with regard to the consumption of wood fuel but, apparently, it could be reckoned before the War at 40 million cubic sachines[5] a year.[6] Most of this quantity was used in the villages and only 15 million cubic sachines of firewood was used in the towns and by factories, railways, steamships, and other important consumers.[7]

The relative importance of wood as compared with other kinds of fuel before the War may be gathered from the table given below, showing the amount of it on the market in 1913; the figures in the table were prepared by the Special Council for Fuel. They refer only to wood carried by rail and by water; wood carted by road is not taken into account at all, although three-fourths of all the firewood used in Russia was carted. The table thus gives information about a small part only of the wood used for fuel, but it represents the consumption of big units such as towns, railways, industrial undertakings, etc.

[5] One cubic sachine = 343 cubic feet.

[6] V. Faas, *Obshchee delo snabzhenya strani drevesnim toplivom i lesnimi materyalami i meri neobkhodimya dlya uporyadochenya etovo dela* (*The Country's Supply of Wood Fuel*), in *Lesopromishlennik*, 1917, No. 18.

[7] *Perevozki drov po gubernyam i raionam Evropeiskoi Rossii* (*Transport of Wood Fuel in European Russia*), in *Lesopromishlennik*, 1917, Nos. 22–23.

FUEL SUPPLIED TO THE MARKET IN 1913

Kind of fuel	*Quantity*	*In terms of Donets coal*	*Proportion of total supply*
	(in millions of puds)		*(percentage)*
Donets coal	1,207	1,207	40.8
Foreign coal	498	498	16.8
Dombrowa coal	352	300	10.1
Coal from other Russian coal fields	155	132	4.5
Oil	280	420	14.2
Firewood	884	400	13.6
Total	...	2,957	100.0

Thus, before the War, large cities, industrial undertakings, and railways used comparatively little wood fuel.

The War considerably altered the position. No foreign coal was now available; supplies of coal from Dombrowa also came to an end, because the whole of that region was occupied by the enemy. At the same time it was growing increasingly difficult to obtain Donets coal and oil from Baku, because of the dislocation of transport; moreover, in 1917 the productivity of the Donets mines and Baku oil fields had fallen considerably. Wood was, therefore, practically the only fuel left, especially in the Baltic and northwestern provinces, while the demand had greatly increased.

The army required a vast quantity of fuel. Towns were full of refugees and soldiers. Railway traffic steadily increased; more and more fuel was needed to carry it on and for lack of coal and oil firewood had to be used. New factories were built and old ones were working at higher pressure to meet the needs of national defense. As a result of these various factors the consumption of wood in the country grew enormously during the War and it is important to consider whether the supply was sufficient to meet the demand.

According to the figures collected by the Special Council for Fuel, supplies of wood brought to all the provinces of European Russia (except fourteen occupied by the enemy) and the Caucasus had increased from 690 million puds in 1913 to 822 million puds in 1915, that is, by 19 per cent. The increase in the amount of firewood supplied was greatest in the Petrograd region (72.9 million puds); then came the Moscow region (26.8 million puds); the re-

gion of Kharkov (12.8 million puds); of Rostov (7.3 million puds), and so on.

As to the chief cities, the supply of wood to Petrograd had increased from 152.4 million puds in 1913 to 199.4 million puds in 1915, that is, by 31 per cent, and to Moscow, from 82.2 million puds to 98.1 million puds, or by 20 per cent.[8]

Unfortunately, after 1915 statistics with regard to wood supplies are available for Petrograd only.[9] Between 1913 and 1916 the following quantities of wood had been brought there:

WOOD SUPPLIED TO PETROGRAD

Years	*By rail*	*By water*	*Total*
	(in thousands of cubic sachines)		
1913	305.8	303.7	609.5
1914	248.4	307.8	556.2
1915	346.5	457.3	803.8
1916	388.7	641.0	1,029.7

These figures show that by comparison with the last pre-war year supplies of wood in 1916 had increased by 70 per cent, most of this quantity having been carried by water.

During the first seven months of 1916 and of 1917 the following quantities of wood fuel were brought to Petrograd:[10]

SUPPLY OF WOOD TO PETROGRAD IN JANUARY–JULY 1916 AND 1917

Years	*By rail*	*By water*	*Total*
	(in thousands of cubic sachines)		
1916	248.7	291.7	540.4
1917	205.8	308.3	514.1

We see that in 1917 slightly more wood was brought by water, but the quantity carried by rail had diminished so much that, on the whole, the supplies were less than in 1916.

The above figures show that wood fuel was being provided in

[8] *Snabzhenie drovami vazhneishikh gorodskikh tsentrov* (*Supply of Wood Fuel to the Chief Towns*), in *Lesopromishlennik*, 1917, Nos. 25–26.

[9] V. Faas, *Obezpechenie Petrograda toplivom v period 1917–1918* (*Fuel for Petrograd in 1917–1918*), in *Lesopromishlennik*, 1917, Nos. 36–37.

[10] *Ibid.*

greater quantities than before, but, in spite of this, demand always exceeded supply. Indeed, as already stated, in 1915 the amount of wood fuel secured for all the provinces of European Russia (except the western) and the Caucasus had increased by 19 per cent as compared with 1913; but no coal from Poland or abroad was any longer available and the deficit created by the absence of foreign coal alone amounted to nearly 125 per cent of the wood fuel consumed in prewar days by big municipal and industrial units. To a certain extent this was compensated by the Donets coal and by oil, but in any case it is clear that in 1915 supplies of fuel were insufficient.

As time went on the disparity between supply and demand grew still more noticeable. Thus, for instance, by September, 1916, the Special Council for Fuel succeeded in obtaining only about 440,000 cubic sachines of firewood instead of 1,057,000 cubic sachines as they had planned to do.[11] The Fuel Section of the Petrograd Municipal Council was able to purchase only 71,168 cubic sachines of firewood, instead of the 100,000 cubic sachines they had been commissioned to acquire.[12] It was natural, therefore, that in 1916 a shortage of fuel should have been felt in most of the chief centers. The crisis became particularly acute in 1917.

Petrograd was comparatively well off for wood, but even this city had received during the first seven months of 1917 only 80 per cent of the fuel it had had during the same period in 1916. This can be seen from the following table:

FUEL SUPPLIED TO PETROGRAD

Kind of fuel	*Brought to Petrograd in January–July* *1916*	*1917*
	(in thousands of puds)	
Donets coal	46,037	22,654
Oil	13,567	15,045
	(in cubic sachines)	
Wood	540,360	514,109
Total (in terms of Donets coal)[13]	124,817	101,146

[11] *Explanatory Memorandum* (*Zapiska*) to the estimates of the Ministry of Commerce and Industry for 1917.

[12] *Novoe Vremya,* December 1, 1915.

[13] One pud oil = 1.8 puds of Donets coal; one cubic sachine of firewood = one hundred puds of Donets coal.

There was a shortage of wood and the price of it had greatly risen. Very few statistics are available concerning the rise in price, but the figures at our disposal are highly significant. The prices quoted below were fixed by the Special Council for Fuel on December 14, 1916[14] and by the prices committee of the Petrograd Wood Exchange on March 23, May 23, and October 11, 1917, for one *pogonnaya* sachine of logs 14 inches long.[15]

PRICE OF FIREWOOD

Kind of wood	*December 14, 1916*	*March 23, 1917*	*May 23, 1917*	*October 11, 1917*
		(*in rubles*)		
Birch	21	30–35	38–40	52–55
Elm	20	29–33	36–38	45–49
Pine and spruce . . .		28–32	34–46	43–46
Aspen	17	22–26	29–31	32–34

These figures show that in the course of ten months the price of all kinds of firewood had increased by 100 to 150 per cent. If we compare the prices between March and October, 1917, the difference will be less striking, but even then it will amount to something from 30 to 57 per cent.

There was also much less timber available for building purposes. According to the correspondent of *Torgovo-Promishlennaya Gazeta*,[16] the quantity of building timber available during the season 1915–1916 was only half of what it had been before the War and in many localities only 20 or 30 per cent. During the season 1916–1917 more timber was available, but the prices were 40 or 50 per cent higher than in the preceding year.[17]

Difficulties in Obtaining Supplies.

The circumstances which made it impossible to provide as much firewood and other timber as was required were as follows.

[14] *Lesopromishlennik*, 1917, No. 1.

[15] *Lesopromishlennik*, 1917, Nos. 14–15, 24, 40–43. A *pogonnaya* sachine is a cubic measure for firewood used in small retail trade only. The contents of this measure varies according to the length and diameter of the logs. For logs 14 inches long it is approximately equal to 3.5 cubic feet.

[16] *Lesnaya zagotovochnaya kampanya 1915–1916 gg.* (*The Campaign for Providing Timber and Wood in 1915–1916*), in *Torgovo-Promishlennaya Gazeta*, 1916, No. 103.

[17] *Vnutrennaya lesnaya torgovlya* (*Domestic Trade in Timber and Wood*), in *Lesopromishlennik*, 1916, Nos. 14–15.

Before the War wood was quite easy to obtain. The forests were at hand, labor was cheap and generally there was a surplus of it. The methods of preparing supplies of firewood involved an extensive use of manual labor.

During the War the conditions radically changed. In the majority of cases enormous quantities of timber had to be felled and sawed in places far distant from populated centers, while labor was both scanty and dear. It was very difficult to meet the needs of wartime by introducing more up-to-date methods of work, for it was impossible to obtain in time the necessary machinery and to reorganize the whole business.

The forest industry encountered great difficulties because in the first place of the shortage of labor and the rapid increase in wages. Repeated mobilizations considerably decreased the number of workmen, especially of skilled hands. The employment of women, children, prisoners of war, and persons of the yellow race proved to be of little use and, indeed, led to a serious fall in the productivity of labor, since forest work requires a certain amount of training. The injurious effect of repeated mobilizations upon the forest trade and industry was pointed out in the *Explanatory Memorandum on* the estimates of the Forestry Department for 1917; it was there stated that "as the War continued and the number of men mobilized for the army increased, the turnover of private industry grew smaller and smaller. It was no longer able to satisfy the army's demand for timber."[18]

Moreover, the forest industry was seriously hampered by the shortage of horses for carting the sawn timber from the woods and consequently already in 1915–1916 "a considerable amount of wood ready for building purposes and for fuel was not brought to wharves and railway stations but remained where it was."[19]

Shortage of fuel and fodder, of machinery, of rails for running trucks, etc., the dislocation of transport, and the difficulty of unloading at wharves or railway stations, were also detrimental to the forest industry.

[18] Quoted in *O zagotovke drov* (*Supplies of Firewood*) in *Lesopromishlennik,* 1917, No. 3.

[19] *Lesnaya zagotovochnaya kampanya 1915–1916 gg.* (*The Campaign for Providing Timber and Wood in 1915–1916*), in *Torgovo-Promishlennaya Gazeta,* 1916, No. 103.

In addition to all this, the business of preparing wood for building and fuel was very much hindered by the policy of requisitions adopted by the military authorities and the railways.

Railways needed fuel, and the management requisitioned from timber merchants great quantities of firewood that happened to be stored near railway stations. The price given was very low and the payment deferred for many months. At the same time railway companies purchased firewood in distant places and were ready to pay any price however high, so long as they obtained the goods. Meanwhile the military authorities requisitioned growing timber in the same district at a loss to the owners and introduced compulsory labor among the local population, trying thus to lower the cost price of wood out of all proportion to its market price. And since the owners of wood who supplied fuel to the railways at exorbitant prices could afford to pay high wages, complete chaos reigned in the labor market of the districts in question.

Timber merchants pointed out to the Minister of Commerce and Industry more than once that the requisitions "affected the industrial life of the whole district in which they took place, alarmed timber merchants and, therefore, lowered their business initiative; besides, the money for the requisitioned goods was never paid in time, so that the merchants lost their capital and credit."[20]

The Revolution of February, 1917, made the position of the wood and timber industry more difficult than ever. The decline in discipline among workmen brought about by the Revolution resulted in a marked decrease in the productivity of labor. In many regions the peasants would not allow trees to be felled in Crown or privately owned forests, so as to preserve the forests intact until they passed into the hands of the peasantry. For the same reasons the provincial, district, volost, and village land committees forbade the felling, carting, loading, and rafting of timber, and fixed the price of it at a figure which did not cover even the cost of felling the trees. The Provisional Government, the Central Land Committee, and other public bodies, tried to stop such arbitrary proceedings by appealing to the peasants, but were powerless to arrest the disorganization which already prevailed.

[20] *O zagotovke drov* (*Supplies of Wood Fuel*), in *Lesopromishlennik*, 1917, No. 3.

Measures for Increasing Supplies.

When at the beginning of 1915 the demand for wood and timber in the home market began to increase, the Government took measures to secure larger supplies, but at first these measures were somewhat haphazard. Thus, for instance, when Crown forestries were short of labor, the Council of Ministers allowed them to draw upon Mennonite[21] reservists who were not needed for Red Cross work.[22]

Further, in 1915 the Department of Agriculture gave the forest preservation committees the power to allow private owners to cut down trees at a more rapid rate than usual: the owners who managed their forests in accordance with a plan sanctioned by the committees could cut in one year as many trees as they would in normal circumstances have cut in ten years, while those who followed no such plan might, in the course of one year, fell the amount normally distributed over five years. The committees retained this power in the years that followed.[23]

A Special Council for Fuel was established on August 17, 1915, under the chairmanship of the Minister of Commerce and Industry, in order to bring coördination into the measures taken for securing supplies of fuel to railways, government and public institutions, munition factories, and industrial concerns of national importance.

The Special Council was particularly concerned with solid and liquid mineral fuel. Steps were taken to increase the supplies both of coal and of oil and to ration the consumers. The problem of rationing wood fuel had not arisen and all that the Special Council did was to coöperate with the municipalities in purchasing wood for the needs of the population and to lay in stores of it on their behalf. The Council had commissioners in Moscow, Petrograd, and Kiev, to secure fuel for those cities, and also several commissioners whose business it was to purchase wood.

In order to help the municipalities to obtain fuel the Special Council asked the Government for credits to the extent of 15 million rubles, and before the autumn of 1916 the municipalities had received some 9.5 million rubles on loan.

According to the regulations issued on November 16 and 18,

[21] Members of a religious sect who were conscientious objectors to warfare.

[22] *Novoe Vremya,* March 8, 1915. [23] *Ibid.,* April 25, 1915.

1915, the Special Council was empowered by the Treasury to guarantee the loans made by private banks to towns and zemstvos for the purchase of fuel, not exceeding a total sum of 50 million rubles. By the autumn of 1916, guarantees to an amount of 22.5 million rubles had been given, and by the summer of 1917 the limit had almost been reached.[24]

The Special Council had funds for the purchase of fuel, and particular attention was paid to supplying Petrograd, Moscow, and Kiev. It bought wood below market price and was, in consequence, able to affect the prices of wood in towns by selling it cheaper than the local merchants.

During the season of 1915–1916, the Special Council had proposed to buy some 1,057,000 cubic sachines of wood and by September 1, 1916, about 440,000 cubic sachines had already been secured. The remainder was to have been obtained in 1916–1917, and in the season of 1917–1918 it was proposed to acquire some 790,000 cubic sachines worth about 68 million rubles.

In view of the fact that in some cases private owners whose forests were near the railways charged too high a price for growing timber, the Special Council asked the Government for permission to take charge of such forests for a time and to have the price of timber for felling fixed by special valuation committees relatively to prices paid for timber and wood on Crown and Appanages estates.[25]

Besides purchasing wood and helping the towns to do so, the Special Council's activities consisted in sequestrating several forest estates that had belonged to German subjects, in fixing maximum prices of timber and wood in various localities when asked to do so by the local authorities, and, especially, in coördinating the measures taken by the latter for obtaining wood for fuel.

The Special Council had done a great deal to secure fuel for towns, but it had done practically nothing for the railways. And

[24] *Explanatory Memorandum* (*Zapiska*) on the Estimates of the Ministry of Commerce and Industry for 1917; also *Garantii gorodam i zemstvam po zaimam na zagotovku drov* (*Guarantees of Municipal and Zemstvo Loans for the Purchase of Fire-Wood*), in *Lesopromishlennik*, 1917, Nos. 27–28.

[25] *Explanatory Memorandum* (*Zapiska*) on the Estimates of the Ministry of Commerce and Industry for 1917; also *Interview* with Prince Shakhovskoy, Minister of Commerce and Industry, in *Novoe Vremya*, September 24, 1916.

yet, as early as 1915, they had difficulty in obtaining fuel. In the autumn of 1916 it was perfectly clear that unless the railways were provided with wood, the consequences would be very serious. The Special Council for Fuel discussed the subject more than once but with no practical results. At the beginning of 1917 the Special Council for Transport showed that since it was impossible to provide more than 45 million puds of coal for the railways each month, they would require, roughly, by April 1, 1918, 4.8 million cubic sachines of wood. The Council thought that the task of providing such a large quantity could only be carried out with the help of competent public bodies under the direction of a specially selected committee.[26] But the proposal to appoint such a body under the name of the central committee for providing railways with wood fuel received legal sanction only a short time before the Bolshevik *coup d'état* and led to no practical results.

The Forestry Department also did a great deal during the War to secure wood for the needs of the Ministry of War, the State railways, and the population of Petrograd. In 1916 the Department was given for the purpose some 40 million rubles and about as much in 1917; in accordance with the instructions of the Government it obtained wood chiefly from the well-wooded north and northeast of Russia, where private individuals failed to show sufficient initiative.[27]

Army Building Department.

The Army Building Department was also occupied with securing supplies of timber, though there is no evidence to show how much it obtained. It is only known that it had undertaken to acquire two million cubic sachines of wood and that, in February, 1916, the chief of the Department, realizing that the task was too big for him, asked the Permanent Council of Congresses of Representatives of

[26] *Zagotovka drov dlya zheleznikh dorog* (*Supplies of Wood Fuel for the Railways*), in *Lesopromishlennik*, 1917, No. 17; V. Faas, *Obshchee polozhenie dela snabzhenya strani drevesnim toplivom* (*The Country's Supply of Wood Fuel*), in *Lesopromishlennik*, 1917, Nos. 18–19, *Proekt polozhenya o komitete* (*The Proposed Committee*), in *Lesopromishlennik*, 1917, Nos. 20–21.

[27] *Smeta raskhodov Lesnogo Departamenta na 1917 god* (*Estimates of the Forestry Department for 1917*), in *Lesopromishlennik*, 1917, Nos. 14–15.

Forest Industries in what way they could best help him. Their consultation, however, did not lead to any practical result, because the military laid down conditions that timber merchants could not accept.[28]

Changes in the Home Trade.

The fact that such bodies as the Special Council, the Forestry Department, the Army Supply Department, the zemstvos, and the municipalities, put on the market vast supplies of wood and timber, and the difficulties placed in the way of private trade and industry, were bound to affect the position of timber merchants, especially as those very same public bodies were their chief customers. There was comparatively little demand on the part of private individuals and what there was came almost entirely from owners of industrial undertakings. The private market was practically in the hands of the most important concerns, which possessed vast quantities of growing timber to fell and to saw and could therefore directly supply the consumers, and also of wholesale wood and timber firms with capital; when timber was purchased, most of it had to be paid for in advance in cash, and this could only be done by rich firms, as prices were high.

The situation was particularly trying for timber merchants who lived in districts where there were no forests, such as the south of Russia: they had the utmost difficulty in purchasing wood and timber from the wholesale firms, in obtaining the assortment they wanted, in bringing the supplies that they purchased to the place of destination, in transferring them from the stations or wharves to their warehouses, and so on.

In view of this, many firms, both great and small, that had dealt in timber for a number of years preferred to liquidate their business, and, in consequence, the timber trade became more and more concentrated in the hands of a few large firms.[29]

The rise in the price of wood and timber led to a greater exploitation of forests and to an increase in the demand for forest estates for trade purposes; the estates were consequently sold by auction

[28] *O zagotovke drov* (*Supplies of Wood Fuel*), in *Lesopromishlennik*, 1917, No. 3.

[29] *O prichinakh likvidatsii lesotorgovikh firm* (*Causes of the Liquidation of Timber Firms*), in *Lesopromishlennik*, 1917, Nos. 12–13.

at very high prices. Thousands of acres of forest were bought solely to be cut down for timber and in this respect the Ural forests suffered most severely.[30]

Export Trade.

The export of timber from Russia during the first three years of war was as follows: in 1914, 228 million puds to the value of 105.7 million rubles; in 1915, 48 million puds to the value of 27.3 million rubles; in 1916, 55 million puds to the value of 57.1 million rubles.[31]

Thus in two years the export of timber fell to less than one-fourth of what it had been before the War. As compared with the average yearly exports of 1909–1913 (430 million puds) those of 1914 had decreased almost by one-half; hence the exports of timber in 1915 and 1916 were only one-eighth or one-ninth of what they had been before the War.

During the first seven months of 1917, 7.6 million puds of timber were exported to the value of 14.6 million rubles, and during the same period of 1916, 20.7 million puds to the value of 20.3 million rubles. In 1917, therefore, there was another serious fall in exports.

The decrease in timber exports during the War was chiefly due to two causes: 1. the increase in home consumption—the demand exceeded the supply and there was a very great rise in prices; 2. the fact that before the War three-fourths of the exports used to be sent from the Baltic ports and across the Russo-Prussian frontier, that is, by the two routes which were closed as soon as the War began. The whole of the Russian export trade was now centered in Archangel; and since most of the imports needed for national defense and private industry also came by the White Sea, its harbors soon became more or less congested, which, of course, affected exports.

Most of the timber was exported to Great Britain, as can be seen from the following figures: in 1914, 90 million puds or 39.4 per cent of the total exports of timber for the year; in 1915, 46 million

[30] *Itogi lesnoi torgovli v 1916 godu* (*Timber Trade in 1916*), in *Lesopromishlennik*, 1917, No. 1.

[31] *Vneshnaya torgovly Rossii* (*Russian Foreign Trade*), for 1916 and 1917, published by the Department of Customs, Petrograd.

puds or 95.8 per cent; in 1916, 42 million puds or 76.3 per cent; and in 1917 (January–July), 6 million puds or 75 per cent.[32]

As her exports decreased Russia played a correspondingly smaller part in supplying Great Britain with timber; Scandinavia, Canada, and the United States took her place. The share of different countries in supplying Great Britain with sawn timber can be seen from the following table:[33]

IMPORTS OF TIMBER TO GREAT BRITAIN

Exporting country	*1912*	*1913*	*1914* (*percentage*)	*1915*	*1916*
Russia	49	51	35	17	16
Scandinavia	27	25	33	48	50
United States and Canada	23	22	25	30	27

Most of the timber exported from Russia to Great Britain was required by the War Office; very little was sent to private firms, because the British Government had not enough tonnage at its disposal. Thus, for example, in 1916 it provided tonnage for private purchasers only in September, at the close of the navigation season in Russian waters. Early in 1917, the British Government took over all timber yards in England, fixed the price of timber, and forbade its importation without special permits; consequently all sales of Russian timber to private importers stopped, and the only purchaser of it was now the British Government, which acted in this matter in concert with the French, since the timber was bought chiefly for the needs of the Allied armies in France.

In the spring of 1916 an agent of the British Government succeeded in buying considerable quantities of sawn timber at £9 per standard. But later prices rose to £10, £12, and more.[34]

Foreseeing that in the navigation season of 1917 there would not be much timber for export and the prices would rise still higher, the British and the French Governments, in November, 1916, asked the Russian Government to help them to purchase and to bring to the White Sea ports at the beginning of the next navigation season

[32] *Ibid.*

[33] *Lesnaya torgovlya Velikobritanii v 1916 godu v svyazi s uchastiem v nei Rossii* (*British Timber Trade in 1916 and Russia's Part in It*), in *Lesopromishlennik*, 1917, Nos. 7–8.

[34] *Lesnaya promishlennost belomorskikh portov* (*Timber Trade of the White Sea Ports*), in *Lesopromishlennik*, 1917, Nos. 27–28.

as great an amount of timber materials as possible, especially of planks.

After a number of consultations at the Ministry of Commerce and Industry it was made clear that by the beginning of navigation in 1917 only some 200,000 standards could be brought to the White Sea ports, and not more than another 100,000 standards by the autumn of the same year, if the timber industry were declared to be working for national defense. A committee of Assistant Ministers decided to organize the provision of timber for the Allies on the following plan: 1. the whole business was to be directed by a special committee consisting of representatives of the forest industry and of the departments concerned and presided over by the Assistant Minister for Commerce and Industry; 2. no timber was to be exported without the committee's sanction.

Meanwhile, as some sawn timber had been sold in the White Sea ports at £20 per standard, the British Government began negotiating with the exporters for the sale of all the timber they could produce.[35] But as they could not come to any agreement, the price of sawn timber during the navigation season of 1917 was discussed by a committee attached to the Ministry of Commerce and Industry, which found that £23 per standard represented the real value of the goods; but since the timber was intended for military purposes, it was decided to bring the price down to £22.[36]

The British Government did not agree to pay this price and refused to buy timber on a single contract, saying that they would purchase it from individual firms, fixing the price on each particular occasion according to the specification.

The figures quoted show that the export price of sawn timber had, in the course of a year, risen to more than double what it had been in the spring of 1916; this was due to the great increase in the cost of felling, rafting, and sawing.

Woodworking Industries.

As the demand for firewood, sleepers, planks, and other goods of this kind increased, sawmills had to work at much greater pressure.

[35] *Snabzhenie lesnimi materyalami soyuznikov* (*Supplying the Allies with Timber*), in *Lesopromishlennik*, 1917, No. 17.

[36] *Lesnaya promishlennost belomorskikh portov* (*Timber Trade of the White Sea Ports*), in *Lesopromishlennik*, 1917, Nos. 27–28.

Further, during the War weatherboards came to be widely used for making hutments, bathhouses, and also for roofs and packing cases; this caused a great expansion of this branch of industry, which had so far been little developed in Russia. Articles needed for military purposes, carriage-making, etc., were also very much in demand: munition boxes, blocks for rifle stocks, felloes and spokes for wheels. The Forestry Department partly made up for the shortage of these by having the articles in question manufactured at government works. The demand for by-products also increased, and accordingly the already existing works were more busy than ever and many new ones were started by private persons, zemstvos, the Forestry and Imperial Appanages Departments, and so on. Unfortunately no statistical data are available with regard to woodworking industries in Russia during the War and it is difficult, therefore, to say to what extent the increased demand for wooden goods was met.

In any case, the industries were faced with the same difficulties that have already been mentioned: shortage of labor, especially of skilled labor, shortage of fuel, of plant, of materials and tools for repairs, and disorganization of transport. All these difficulties grew much worse after the Revolution of February–March, 1917, which caused a relaxation of discipline among the workers and a fall in the productivity of labor.

In spite of this, however, considerable initiative was displayed by those engaged in the industry; new undertakings arose, the capital of those already existing increased rapidly. This was due both to the growing demand and the rise in prices during the War, and to the hope that the export of timber would greatly develop after the War, because of the large requirements of the foreign consumers; and since Russia was no longer hampered by the commercial treaty with Germany, it was reckoned that, in the future, sawn timber alone would be exported.

Both business circles and the Government were considering how best to satisfy these demands when the time came. It was proposed, for instance, to build a number of railways in the north of Russia so as to facilitate the exploitation of the forests there, and the best methods of managing the Crown forests in the north were discussed.

None of these hopes and suppositions, however, were to be realized, for the Bolshevik Revolution of October, 1917.

Conclusions.

From all that has been said we may deduce the following conclusions:

1. Forests were being rapidly organized during the War and the revenue from them had considerably increased.

2. At the very beginning of the War there was a slump in the timber market; but from 1915 onward the demand for timber for building, and especially of wood for fuel, grew more and more urgent.

3. The acute need of wood for fuel was due, on the one hand, to the fact that no coal from abroad or from Poland was forthcoming, while less oil and Donets coal was available and the transport difficulties had increased, and, on the other, to the growing demand for fuel on the part of the army, of the railways, which had to work at high pressure, of munition factories, and of towns, the population of which was swelled by soldiers, refugees, etc.

4. In spite of much greater quantities of timber materials, and especially of firewood, being put on the market, the disparity between supply and demand increased rapidly and the position became critical in 1917, when there was an acute shortage of fuel for the railways.

5. There was not enough wood for fuel and for other purposes, and, at the same time, prices had risen.

6. It was impossible to meet the demand for wood because of the shortage of labor and the rapid rise in wages, the shortage of horses, of food, of fodder, of means of production, the disorganization of transport, and the unsatisfactory working of the system of requisitions. All these difficulties had very much increased as a result of the Revolution of February–March, 1917.

7. Efforts were made to overcome these difficulties, and at the same time the Forestry Department, the Special Council for Fuel, the Army Building Department, and municipal councils, took energetic measures to provide more wood; the Government helped the towns to purchase fuel by lending them money and guaranteeing their loans from private banks.

8. The difficulty of satisfying the demand for timber within the country and the closing of the chief routes by which timber used to be sent abroad resulted in a very large decrease in the exports.

9. The growing demand for timber at home, the rise in the price of it and, especially, the hope that after the War the exports would increase enormously to meet the requirements of foreign customers caused a number of new undertakings in the timber trade to be started; at the same time the Government prepared numerous measures for meeting the requirements of the foreign market in the future.

10. The Bolshevik *coup d'état* prevented the realization of these hopes and plans. At the present time the export of timber from Russia, if any, is so small that it plays hardly any part in supplying the world market.

11. In the future Russia will, no doubt, again occupy a foremost position in the world timber market. The forests of other countries have been subject to intense exploitation since the beginning of the War and are being exhausted; while Russia, in spite of the curtailment of her timber area by the formation of new States on her western frontier, still holds the foremost place among the countries of the northern hemisphere that supply the world market with timber.

CHAPTER XII

THE REVOLUTION OF FEBRUARY–MARCH, 1917, AND ITS EFFECTS UPON AGRICULTURE

The Provisional Government.

At the beginning of March, 1917, when the Emperor Nicholas II had abdicated for himself and his son, and the Grand Duke Michael had refused the crown, a Provisional Government under the presidency of Prince Lvov was formed and full powers were formally entrusted to it.

Continually changing its personnel, the Provisional Government managed to remain in power for nearly eight months, but at the end of October, 1917,[1] was easily overthrown by the representatives of the Third International.

Although officially the Provisional Government had sovereign power, it was, as a matter of fact, hampered in all its actions by the newly created Soviet of Workmen's and Soldiers' Deputies, in which genuine workmen and soldiers played no real part, serving merely as a screen for the activities of the revolutionary intelligentsia.

There is no doubt that at that critical moment of unparalleled excitement and general exasperation the agrarian problem became very acute and assumed a first rate importance for the future destinies of Russia. To calm the passions that had been fanned into flames and, indeed, to save the country, it ought to have been settled in one way or another quickly and decisively. But the Provisional Government, weak and uncertain of itself and bound hand and foot by the extreme revolutionary organizations behind the Soviet of Workmen's and Soldiers' Deputies, was slow and indecisive even with regard to this cardinal problem.

The Provisional Government had no clear aim before it and no definite plan of action. Full of doubts and hesitations, it dealt with the land question at random, blundering along and trying to take refuge behind the fictitious authority of the Constituent Assembly.

[1] All dates in this monograph are given in accordance with the Russian calendar.

Instead of a clear aim and a definite plan of action the Government had nothing but vague aspirations, and even with regard to these there was no unanimity among the constantly changing members of the Government; at times, indeed, they violently disagreed.

During the first months after the Revolution the peasants were in a comparatively peaceful frame of mind. Those of them who had remained at home had but one desire—to gain possession of the gentry's land, divide it among themselves, and make their title to it as secure as possible; for the most part the peasant masses were anxious to do it all peaceably, "like good Christians," "lawfully," and "without offense." They readily admitted the owners' right to retain as much land as the peasants had themselves. The soldiers, and especially the sailors, who had been allured by the rumored prospect of the division of land and deserted from the front in masses for fear of missing their share, were in a far more truculent mood; but at the beginning it was still possible to take the situation in hand. As time went on, however, and no legislative solution was forthcoming, the exasperation of the peasantry increased and, being zealously encouraged by the systematic propaganda of the revolutionaries, it was fanned into flames which could not have been quenched by the Provisional Government, or even by a stronger executive had there been one. The period of destruction that followed completely undermined the foundations of Russian agriculture.

Land Belonging Formerly to the Imperial Family.

One of the early steps of general importance taken by the Provisional Government was the publication of decrees on March 16 and 17, 1917, on the subject of lands belonging to Appanages and to His Majesty's Cabinet. The first decree transferred to the State all Imperial Appanages and the properties, undertakings, and capitals appertaining to them; the revenue accruing therefrom was to be considered as State revenue. The Imperial Appanages Department was reorganized as the Special Central Department. By the second decree all the lands, rivers, forests, and lakes belonging to His Majesty's Cabinet were transferred to the State and placed under the Department of Agriculture. The mineral rights belonging to the Cabinet were transferred to the control and administra-

tion of the Ministry of Commerce and Industry. The works, factories, mines, and quarries of precious and other stones, metal ores, and mineral water sources were also handed over to the Ministry of Commerce and Industry, which was to superintend all private works, factories, and mines on Cabinet lands and to draw up regulations to govern mining operations. Monetary capital belonging to His Majesty's Cabinet was transferred to the control and administration of the Ministry of Finance. Local centers for the management of the Cabinet lands were subordinated to the Department of Agriculture and the Ministry of Commerce and Industry.[2]

By these two decrees most valuable lands, extending altogether over a score of millions of deciatines, forests, iron mines, gold and silver mines, lakes full of fish and so on, were made State property. The most valuable of His Majesty's lands were those situated in western Siberia on the Altai Mountains and in eastern Siberia in the Nerchinsk district.

Both decrees were a natural consequence of the abdication of the Emperor, which made it necessary to change the legal title to the lands. The decrees made the position perfectly clear, and were, in so far, quite sensible and, indeed, inevitable. But they were not of much practical importance, for, as a matter of fact, during the preceding years the land belonging to the Imperial Appanages and to His Majesty's Cabinet had been, in the interests of the nation, largely utilized for the peasants' benefit both by sale to them and by permission to farm it.

Land Belonging to Enemy Aliens.

The Provisional Government also took definite action with regard to another category of landowners. During the War a number of legislative acts were passed in 1915, 1916, and early in 1917, limiting, restricting and, in some cases, taking away the right of enemy aliens, of former German and Austrian subjects, and of German settlers in Russia, to own or to farm land in the central provinces of the Empire or in the borderlands. Restrictions were also imposed on industrial undertakings situated on lands owned by enemy aliens or former Austrian and German nationals and consequently subject

[2] *Russian Almanac,* by N. Peacock, published for the Anglo-Russian Trust, London, 1919.

to sequestration. Procedure was fixed for liquidating such property in certain cases and for paying compensation for it.[3]

Although the War still continued and the Provisional Government officially expressed its firm determination to carry it on till final victory, it felt morally bound to safeguard the interests of the persons just referred to. By one of its first decrees, signed on March 11, 1917, the Provisional Government canceled all restrictions that had been imposed on former Austrian and German subjects and on German settlers, and stopped the compulsory sequestration of their property both in the borderlands and within the Empire.[4]

Thus the settlers of German and Austrian origin were solemnly reinstated in their right to own land on the same basis as before the War, that is, either as communal or as private property. The only restrictions that remained in force were those with regard to enemy aliens' property.

There is, of course, no doubt that the government action was dictated by humane and generous motives. But, in the interests of Russia, it certainly ought to have been, at any rate, deferred till the conclusion of peace.

We see then that the legal position was clearly defined in the case of two kinds of landed property: the Imperial Appanages and His Majesty's Cabinet lands were taken over by the State and the lands of Austrian and German settlers were returned to them.

Large Private Estates.

But with regard to the most important categories of landed property, that is, private estates and peasants' land, the position remained as indefinite as ever and the promised agrarian reform failed to take shape.

The most pressing aspect of the problem was the confiscation of private estates for the benefit of the peasants, especially of those who had but little land. It was another matter whether such confis-

[3] Laws of February 2 and December 13, 1915, July 10 and 15, August 19, September 8, October 20 and 25, 1916, January 28, February 6 and 8, 1917. For details see Baron B. E. Nolde, *Russia in the Economic War* (Yale University Press, 1928), in this series of the "Economic and Social History of the World War."

[4] *Sobranie uzakonenii i rasporyazhenii pravitelstva* (*Collection of Enactments*), March 17, 1917, No. 62, Section I, paragraph 367.

cation was really necessary; at that anxious and difficult time no one went into it, or even took an interest in it. What made the situation so acute was that the peasants were passionately intent on obtaining the land belonging to large estates and saw in this their only salvation.

The Provisional Government perfectly understood the peasants' attitude and encouraged it; several of its members warmly supported the idea of confiscating private estates.

The only consistent idea, if any, in the Provisional Government's activity, was displayed in their tendency, on the one hand, to favor the confiscation of private estates, and, on the other, to introduce into agrarian relations the principle of collectivism, if only in the very limited form of preserving and extending the system of communal ownership with periodical redistribution of land.

The first tendency would have determined the Government's policy only negatively had it not been connected with another, and a purely political, aim of weakening the economic power of the landowning class, chiefly of the Russian gentry, and depriving them of any influence in the administration of affairs or in local government. This extraneous consideration was, in truth, the chief motive that impelled the Government to insist on the confiscation of private estates. Giving the land to poor peasants was merely a convenient pretext for carrying it out.

The second tendency was due to admiration for the peasant commune—a feeling that has been widely prevalent during the last decades among educated Russians, from important officials and learned professors down to the rural agricultural instructors and employees of the district zemstvos. It is doubtful whether the peasants themselves were as unanimous about the principle of collectivism, but this was not likely to shake the popular belief in its salutary nature, a belief that was beginning to acquire the character of a religious dogma.

The efforts to frame an agrarian policy were attended with the scantiest success. Like nearly all revolutionary authorities, the Provisional Government was preëminently "political," and yet it failed to grasp the complex political combinations arising out of the agrarian problem. It wavered and had not the courage to assume the responsibility of decisive action. Instead of passing a comprehensive law with regard to land, it confined itself to a vague declara-

tion, inspired by the tendencies that have just been referred to and containing mere promises, while referring the whole of the land problem to the Constituent Assembly for solution. Such a declaration could not, of course, satisfy anyone, but it did a great deal to encourage the aggressive mood of the peasants and their desire to settle the land question by "direct action."

The Land Committees.

Although the Provisional Government shirked the responsibility of dealing with the land problem and sought to pass it on to the Constituent Assembly, it was conscious that something had to be done at once to prepare the way for its solution. On May 3, 1917, a decree was issued establishing land committees in every volost, district, and province, as well as a Central Committee for the country as a whole. The objects of the committees were defined as follows:

> The Central and local land Committees, under the supervision of the Ministry of Agriculture, are established in order to prepare the way for land reform and to draft provisional measures to be adopted pending the settlement of the land question by the Constituent Assembly.[5]

The duties of the Committees and the sphere of their activity were by no means clearly laid down by the decree. The main work of the Central Land Committee was to draw up a general scheme of agrarian reform. The scheme was to be based on the one hand upon the information collected by the Central Committee and by the local committees under its direction and guidance, and, on the other hand, upon the considerations and conclusions submitted by the local committees.

It must be admitted that the task before the Central Committee was an extremely hard one. The land question was difficult enough and the Committee had received no definite instructions from the Government about either the aim, or the nature, or the extent, or the direction of the proposed reform; they had been simply told to

[5] *Collection of Enactments,* May 3, 1917, No. 98, section I, paragraph 543, establishing the land committees. Supplements to the decree: *ibid.,* September 15, 1917, No. 222, section I, paragraph 1512, and September 29, 1917, No. 236, section I, paragraph 1631.

prepare a draft of some perfectly indefinite law. There was, of course, the tacit assumption, plain to everyone, that the reform must start with the confiscation of private estates; but the decree contained no reference to it, either direct or indirect. Besides, it was clear that a measure of such importance as the agrarian reform could not be merely negative: the confiscation had to be followed by something positive and likely to satisfy the essential needs of the country. But in what the positive aspect of the reform was to consist was evidently not clear either to the Provisional Government or to the members of the land committees. The latter embarked upon their task, so to speak, with empty hands, having no guiding thread to help them. The Government created a huge and expensive bureaucratic organization extending throughout the country; by means of it an enormous amount of "considerations," "conclusions," and "information" could be obtained, but no one knew what was to be done with it all. It was no wonder, therefore, that the proposed land reform was never formulated.

The machinery of the Central Committee was extremely cumbersome, and the way in which its personnel was appointed gave but little guarantee of their being competent to deal with the problems referred to them.

The Committee consisted of the Minister of Agriculture and his assistants in virtue of their office; the Chairman of the Committee, its business manager, and twenty-five members appointed by the Government; representatives of provincial committees, one from each; six representatives of the All-Russian Peasants' Union and the Soviet of Peasants' Deputies; three representatives each from the Provisional Committee of the Duma, the Soviet of Workmen's and Soldiers' Deputies, and the All-Russian Coöperative Union; representatives of eleven political parties; five representatives from the principal societies for the study of economics; competent persons invited by the chairman of the Committee with an advisory function.

It is interesting that only passing mention is made of the part taken in the Committee by the representatives of government departments (except the Minister of Agriculture and his assistant): it is stated in the note to paragraph 4 that they all have merely an advisory voice. Nothing whatever is said about their number or the method of including them in the Committee. We know that, as a

matter of fact, representatives of the Ministries of Justice and of the Interior formed part of it, but neither the Ministry of Finance, nor the State Nobility and the State Peasant Banks were represented on the Central or on the local committees; later on a special decree had to be issued[6] giving them a permanent seat on these committees. It was not made clear, however, whether they had a right to vote, so that at the meetings of the Central Committee, for instance, it was always possible to ask even the Minister of Finance to abstain from voting. Representatives of government departments sat on subordinate committees, which was not likely to give them a keen interest in the work. Altogether the Central Committee consisted of 161 members and, with the "competent persons," its numbers were over 200.

The local committees were constituted in a similar manner; it is not relevant to our purpose to go into details on the subject.

Besides having to draw up a general scheme of land reform, the land committees were entrusted with a number of administrative and judicial functions and executive powers. Thus the Central Committee was empowered to make representations to the Minister of Agriculture and to the Provisional Government on the following subjects: (1) the restriction or cancellation of existing laws if they were likely to hinder the satisfactory solution of the agrarian problem in the Constituent Assembly or cause perplexity among the population through being out of keeping with the new *régime*, or to interfere with the regular course of agricultural life; (2) the abolition of existing offices and institutions concerned with land if their activity were found to be superfluous in the new conditions,[7] and the distribution of their work, property, and personnel among other offices and institutions; (3) the coördination of the land policy of the Provisional Government; (4) other measures for the purpose of regulating economic relations arising out of the ownership of land (article 3).

The range of subjects with regard to which the Central Committee could make representations to the Government was thus very wide. Every question that could be in any way connected with the

[6] Dated August 25, published September 15, 1917.

[7] This provision was directed against the administration created for the carrying out of the Stolypin Land Settlement of 1906 and 1910. See below, pp. 325 *sqq.*

existing land system or with the proposed, but still indefinite, land reform could be made a reason for asking the Government to change the existing laws or administration. Paragraph 4 of this article practically removed all limits to the Committee's sphere of activity.

Besides having the right to make representations to the Government, the Central Committee was authorized to call on its own initiative All-Russian or local congresses and to appoint commissioners of its own for definite localities and for dealing with the different branches of work, in order thus to coördinate the activities of the local committees.

Local land committees enjoyed wide administrative and judicial powers; the provincial and even the district committees had the right to issue compulsory regulations concerning agricultural and agrarian relations, which was more than the district zemstvo boards could do.

Finally the land committees were given the right (1) to settle questions, disputes, and misunderstandings arising in connection with agrarian and agricultural affairs and, when necessary, to appoint for the purpose arbitration tribunals; (2) to stop the proceedings of private persons likely to decrease the value of landed property; (3) to ask the Central Committee to withdraw such property from the persons in question, which amounted to sequestration; (4) to make agreements with the local food committees and other State institutions regarding the best possible use to be made of such properties. All, or some, of these rights could be conferred even upon the volost committees; it was merely necessary for a district committee to pass a resolution to that effect.

In conferring such far-reaching and important powers upon the land committees the law did little to safeguard the interests of private persons and institutions. All that the latter could do was to lodge a complaint with executive officers, the last appeal being to the Central Committee, the decisions of which were final. The results in practice were so unsatisfactory that, after a few months, the Provisional Government, at the suggestion of the Minister of Justice, thought it advisable to issue a fresh decree[8] "subordinating the land and food committees to the Courts of Law."

A well-known Russian economist, Prof. A. S. Posnikov, a firm believer in the communal ownership of land, was appointed chair-

[8] Published on September 29, 1917.

man of the Central Land Committee. It certainly was an excellent choice. A man of wide general knowledge, deep learning, and unimpeachable honesty, he had devoted much of his time to the study of agrarian questions and, being a landowner himself, was one of the best authorities on the subject in Russia. But the personality of its Chairman had little effect upon the activity of the Committee. The indefiniteness of its aims, the composition of the Central and other committees, the atmosphere of political passion, the interference of the Soviets and their activities behind the scenes, made the situation impossible for any Chairman. However gifted and energetic a man might be, he could not have introduced order into the prevailing chaos.

An interesting light is thrown on the work of the Land Committees by the memoirs of V. P. Semenov-Tian-Shansky, who took part in the Central Committee as a representative of the Ministry of Justice:

After the February Revolution the post of the Minister of Agriculture was given to M. Shingarev, a former zemstvo doctor, who had never before had anything to do with this department or with agricultural and agrarian questions in general. One of the first things he did was to publish a new law about the land. This law was inspired by political or, one may even say, by demagogic considerations. Having no idea of how laws should be framed and no experience in statesmanship, Shingarev produced, instead of a law, a kind of proclamation, not even grammatically written. This new law made it necessary to create a whole series of institutions, headed by the Central Land Committee. The Committee was formed in a hurry. . . . One day in the summer I arrived before the Committee meeting and went up to Professor Posnikov; he had a few minutes to spare and spoke to me about the work of the Committee. I told him that, in my opinion, its work was very slow and of very little use, since many of its members, especially those from the provinces, talked too much and too incoherently, and the general lack of legal knowledge was such that there could be no question of their framing a law; indeed it was often difficult to grasp even the general idea of the proposed land reform. To my surprise Posnikov entirely agreed with me and, indeed, expressed himself much more strongly than I had done. He said to me straight out: "Do you imagine it is possible to do anything at all here? These gentlemen ought simply to be turned out. If anything can be done, it can only be by people like you and me—really cultured and well-educated

men who have had a university training and have studied law and economics."

. . . The members of the Committee and of the congresses of its local representatives were tending more and more towards the left; Bolshevism was rapidly gaining ground; it was often said that it was no good considering the "outworn" legal notions since the time had come for a "revolutionary and creative conception of law and justice." It was, therefore, almost useless for us to urge our objections before the Committee, especially since we, the representatives of Government Departments, had no vote. I suggested one day that the delegates of workmen and soldiers should not be allowed to sit on land committees, because if they are not peasants they have nothing to do with the land and if there are peasants among them they must be reckoned as peasants' delegates, while soldiers cannot be said to be a class at all, since every citizen has for a time to be a soldier; this remark caused such an outburst of indignation that Posnikov did not even put my proposal to the vote. On another occasion I said, in reply to an impossible speech by one of the members of the Committee, unquestionably a Bolshevik, that the measures he suggested would in every civilized country, however liberal, be considered sheer robbery and gave instances from criminal law; this again raised an uproar and it was said that representatives of the Ministry of Justice were out of date with their ideas of legality.

Under such conditions it was very difficult for poor Posnikov to steer any definite course, especially as at every sitting of the Committee its membership was partly changed, and fresh amendments, completely distorting the meaning of the points that had already been discussed, were introduced into every draft of the proposed law prepared under his directions by the secretarial staff.

As to the proposed law itself, there was no doubt that the gist of it was complete abolition of private property in land. All the socialist members, who formed the majority of the Committee, agreed on that point. There was, however, a bitter struggle between them as to how this was to be brought about. The Social-Democrats cruelly attacked the National Socialists and the Socialist-Revolutionaries, pointing out, with excellent logic, that the only way to abolish private property was to do away with it altogether in all movable and immovable possessions, and not only in land used for agricultural purposes.

All legal standards had been so completely forsaken that one of the members of the secretarial staff, who had done most of the work of drafting the law and been coöpted on to the Committee, declared

one day that land could no more be an object of private property than for instance the water in the sea.[9]

The author of the memoirs gives an interesting and highly characteristic instance of how the Land Committees conceived of their rights and duties:

> I received a telegram from one of the district land committees, requesting the Senate (Supreme Court) to send them its decision upon a certain land dispute which the Senate had not yet dealt with, threatening that if the Senate failed to comply with the request the district committee would settle the matter by their own means as they thought best. The tone of the telegram was revolting; I wrote on it "to be submitted to the Senate."[10]

Such an attitude was encouraged not only by many of the local committees and by the Soviet representatives in the Central Land Committee, but also by its prominent and influential members. The early numbers of the official publication *Izvestia Glavnago Zemelnago Komiteta* (*Bulletin of the Central Land Committee*) contained leading articles by the well-known N. P. Oganovsky, practically inciting the peasants to wreck private estates. The *pogrom* character of these articles, written in the form of conversations with peasants and advice as to what they should do about the land, is clearly brought out by such phrases as "when this wasp's nest—the gentry's ownership of land—is finally destroyed, etc. . . ." or "in 1905–1906 when the will of the laboring masses, the peasantry, was written in the heavens in letters of fire, by the flames devouring the gentry's estates, etc."[11] This is quite in the style of Lenin's appeal "to plunder the plunderers."

The name and the prestige of an important government institution created for carrying out the necessary agrarian reforms was thus used for openly conducting revolting propaganda that could have no other consequences than violence, robberies, murders, incendiarism, destruction of property, and disturbance of agricultural life.

[9] V. P. Semenov-Tian-Shansky, *Glavni Zemelni Komitet* (*The Central Land Committee*), in *Arkhiv Russkoi Revolutsi* (*Archive of the Russian Revolution*), Berlin, 1923.

[10] *Ibid.*

[11] *Ibid.*

Conditions of the Countryside.

In the summer of 1917, by harvest time, unmistakable signs of coming disaster were apparent in many provinces of European Russia. This caused the Government hurriedly to publish a special order, addressed by the Minister to the Food Supply Committees "to prevent any interference with gathering the harvest."[12]

In view of the fears entertained by the landowners in the spring for the safety of their crops [the decree stated], the Provisional Government, on April 11, 1917, issued a decree making it the duty of the committees to protect the crops, and promised compensation to the owners for any damage done. Under the law of March 25, 1917,[13] all surplus grain must be handed over by the producers to the Government; this is the only way to distribute supplies of grain equally throughout the country and prevent the impending famine. And yet it is reported that there is the greatest danger of the grain not being reaped in time and properly stored. In many localities the population commits violent and unlawful acts preventing the landowners from gathering in the harvest and sowing the winter crop. The peasants interfere with the grain being reaped by machinery, stop prisoners of war and farm laborers working in the fields, compel those who own or lease the land to pay the prisoners of war more than the price fixed by the Government, and also make them pay the workers in grain instead of in money; they seize the grain and fodder, hay, live stock, implements, and machinery; prevent the harvesting of grain and fodder crops, threshing, the preparation of the fields for the sowing of the winter crop, and so on. The local food supply and land committees, instead of taking drastic measures to stop illegal acts of this sort, which are extremely harmful to the State and disorganise the economic life of the country, pass resolutions and issue regulations that encourage the population to behave in the dangerous manner above indicated.

In one case[14] private landowners and leaseholders have failed to take the necessary measures for reaping the grain, cutting hay, preparing the fields for winter crops and sowing it. It is imperative that an end should be put to all this, for otherwise the country and the army will be left without bread.

[12] Decree of the Minister of Agriculture, July 18, 1917, No. 18.

[13] The reference is to the grain monopoly.

[14] Probably a misprint for "several cases."

After explaining the reasons for issuing the decree the Minister suggests that the provincial, district, and volost food supply committees, "to save their native land and the Revolution, should immediately take most decisive measures to stop arbitrary and illegal acts and on no account to pass resolutions that give the peasants an excuse for making violent and criminal attacks upon landowners."

By way of enforcing the decree, the chairmen of food supply committees were threatened with dismissal and prosecution for slackness or abuse of authority. Landowners and leaseholders who failed to harvest their crops or sow their lands and the peasantry who committed arbitrary and illegal acts were also menaced with punishment.

The decree is chiefly interesting because, on the strength of exact information, it gives a true, though not sufficiently vivid, picture of what was going on in the country.

The effect of the decree was practically nil. It could not have any great influence, if only because it was addressed exclusively to the food supply committees. Besides these, however, there were the land committees,[15] which were inspired by ideas different from those voiced by the Minister of Food Supply. True, in issuing that decree he attempted to hand over the whole business to the food supply committees, asserting that no other committees had a right to deal with the matter. Such a statement, however, conflicted with the law relating to the land committees, so that the latter were formally justified in disregarding the orders of the Minister of Food Supply and in following their own line of action.

The Bolshevik Uprising of July, 1917, and the Resignation of Prince Lvov.

It was a critical moment. In addition to the growing agrarian unrest, two events that took place at the beginning of July were a prelude to the terrible tragedy that ended in the break-up of the Russian Empire.

At the beginning of July the Bolsheviks organized a rising in Petrograd in order to overthrow the Government with the aid of mutinous soldiers. The rising had been well prepared, but owing

[15] To say nothing of the volost executive committees and the Soviets of Workmen's and Soldiers' Deputies.

to energetic measures adopted at the instance of the Minister of Justice, Pereverzev, it was immediately crushed. At the very same time German troops broke through the Russian front near a place called Brody, and it seemed as though a sweeping German victory was in sight. As a matter of fact, however, it was not a case of the enemy breaking through the Russian lines. What had happened was simply that certain regiments, worked up by experienced socialist agitators, left their positions and retreated, abandoning a 30 versts (20 miles) length of front and thus exposing the neighboring sections of the front to serious danger. The German troops naturally rushed into the gap.

The position of the Provisional Government was growing more and more difficult, especially as there was much friction between its members, both on personal grounds and on questions of principle.

The first head of the Provisional Government, Prince Lvov, conscious of the impossible situation in which he had been placed, thought himself justified in disclaiming all further responsibility and resigning his post as Premier and Minister of the Interior. It is interesting that in his official letter of resignation he pointed out to the Provisional Government his disagreement with Chernov's agrarian policy:

Although I believe that the land ought to be handed over to the peasants [Prince Lvov wrote], I cannot agree either with the content or the spirit of the land laws submitted by the Minister of Agriculture to the Provisional Government for ratification. The Provisional Government has declared that the occupation of land should be organized in the interests of the working classes and of national welfare, but the Minister of Agriculture seems to me to depart from this principle and to introduce laws which undermine the people's conception of justice. Far from combating aggressive tendencies or bringing order into agrarian relations, he appears to justify the disastrous seizures of property that are taking place throughout Russia and aims at confronting the Constituent Assembly with a *fait accompli.* To my mind, the laws proposed by him are part of a party program and not measures necessary for the good of the country. I foresee that eventually they will disappoint the people and make it impossible to carry out a national land reform. I consider the Minister of Agriculture's land program disastrous for the country, for it will ruin and undermine it both morally and materially, and I very much fear that it will create throughout Russia the state of things against which the Provisional

Government has been during the last few days so energetically struggling in Petrograd.[16]

The Leadership of Kerensky.

Prince Lvov resigned and the Government was reconstituted once more. M. Kerensky was put at the head of it. A few days later Kerensky and Chernov also resigned, on the pretext that personal attacks had been made on them, but in a very short time they resumed their posts, and their prestige was greater than ever. At the same time four of the Ministers who did not belong to the Socialist camp, but had resigned together with Kerensky, were cleverly got rid of; thus the way was cleared.

The first act of the new Provisional Government was to issue, on July 8, a long general proclamation that began rather impressively: "Citizens! A terrible hour is upon us. The troops of the German Emperor have broken through the front of the Russian people's revolutionary army, etc."

The reference to the land reform was as follows:

> The measures of the Provisional Government with regard to land will, as before, be based upon the conviction that, in accordance with the vital needs of the nation, the often expressed desires of the peasants, and the programs of all democratic parties, the future land reform must be determined by the idea that the land is to pass into the hands of the workers. This is the principle underlying the project to be submitted to the Constituent Assembly.
>
> In the immediate future the Provisional Government intends: (1) completely to abandon the old land policy which ruined and demoralized the peasantry; (2) to secure complete freedom for the Constituent Assembly in the matter of disposing of the nation's land; (3) to regulate agrarian relations in the interests of national defense and welfare by extending and strengthening the network of land committees; these will be endowed with carefully defined rights of dealing with the current problems of agrarian policy, but the fundamental question of the ownership of land, which is to be settled by the Constituent Assembly, will not be pre-judged; (4) by thus introducing order into agrarian relations, to obviate the serious danger to the country and to the future land reform from seizures of land and other arbitrary methods of dealing with the matter locally, in contraven-

[16] The letter, dated July 7, was published in *Novoe Vremya*, July 9, 1917.

tion of the principle that the future land reform is to include the whole of Russia in its scope.

Announcing its aims the Provisional Government believes that it has a right to reckon, in its hard and responsible task, upon the whole-hearted support of all living forces of the country. It demands from every citizen a self-sacrificing readiness to give all he has—his strength, his possessions, his very life—for the great cause of saving the country, which has ceased to be a stern step-mother to the peoples that inhabit it, but seeks to unite them all in complete freedom and equality of rights.[17]

At that dangerous and responsible moment when special and decisive measures on a large scale were necessary to save the situation, a kindly and well-meaning Minister of Food Supply was issuing orders in the hopeless attempt to stop the approaching catastrophe; while the man who had replaced Shingarev as Minister of Agriculture was addressing a very different kind of orders to the land committees under his control. It is characteristic that both ordinances bear the same date, July 18, but that of the Minister of Food Supply was officially published, while that of the Minister of Agriculture was not published at all and was kept so secret in Petrograd that a member of the Central Land Committee, Semenov-Tian-Shansky, had difficulty in obtaining it at the Committee's office;[18] but it had been immediately sent out to all the provinces and led to serious practical consequences.

In this connection an interesting article appeared in the paper *Novoe Vremya*,[19] from which we will quote a few passages:

. . . Is M. Peshekhonov (the Minister of Food Supply) likely to achieve any practical results if his colleague in the Government, Chernov, encourages unlawful appropriation of land? Officials of the Ministry of Agriculture, sent to investigate matters on the spot, do not protest against the anarchy that reigns in the countryside, but actually ratify resolutions passed by the land committees regarding the seizure of private estates. In his last ordinance to the land committees the Minister of Agriculture says in so many words: "in view of the coming settlement of the land question and of the fact that in the future the land will be owned by the workers, I suggest that measures be taken for preserving the landed and other property of experimental

[17] Proclamation of July 8, 1917, see *Novoe Vremya*, July 9, 1917.

[18] Semenov-Tian-Shansky, *op. cit.*

[19] *Novoe Vremya*, July 28, 1917.

agricultural stations and schools, nursery gardens, and all agricultural undertakings of high standing (gardens, vineyards, vegetable-gardens, sugar-beet plantations)." But we shall not find in the ordinance any injunction to preserve private estates as such, whether they be of "high standing" or no. The Minister of Agriculture, Chernov, evidently believes that the Government must protect from violence and destruction only sugar plantations, gardens, vineyards, and nurseries. Apparently the Zimmerwald citizen Chernov cares nothing for protecting landed property. He has strange views, to put it mildly, of the functions of the Government. But it is still more remarkable that two Ministers, whose conceptions of their task are so diametrically opposite, should be members of the same Government. . . . In the absence of any local authorities the peasants are eager to seize all they can, and there is no doubt that the request to preserve only gardens and kitchen-gardens will be understood in its literal sense.[20]

In the words of Semenov-Tian-Shansky, it was an experiment

far more revolutionary than anything that had been made in the Central Land Committee and, in some respects, completely at variance with the policy of the Chairman of that Committee (if indeed he may be said to have had a policy). Posnikov was very indignant about this ordinance. Later on M. Demyanov, Assistant Minister of Justice, wrote a report about the ordinance and the illegal proceedings of the Land Committees encouraged by Chernov.[21]

In July and August, 1917, the Provisional Government and individual members of it were more active than they had been at any other time with regard to the land question.

Suspension of Transfers of Land.

In addition to the two Ministers' mutually exclusive ordinances already referred to, the Provisional Government issued, in August, two decrees that had both theoretical and practical importance and were a sequence to their proclamation of July 8. One of these decrees hit the gentry and the other the peasants.

The first decree "restricting transactions in landed property" was supposed to stop speculation in land, to prevent fictitious sales, to prohibit mortgages, sales of land to foreign subjects, and other

[20] Nechaev, *Peshekhonov and Chernov*, in *Novoe Vremya*, July 28, 1917.
[21] Semenov-Tian-Shansky, *op. cit.*

transactions that might make it difficult for the Constituent Assembly to dispose of the nation's land.[22]

To secure this end the decree deprived the owners of the right of disposing freely of their landed property and introduced a system of special permits for all transfers of the ownership of arable and wooded lands, mortgages of such lands, and other methods of disposing of them. All such transactions were forbidden as a matter of principle, but might be allowed in individual cases if the provincial land committee passed a resolution to that effect and it was ratified by the Minister of Agriculture. The Minister of Agriculture was empowered to forbid the sale of all landed property put up for auction and to place it temporarily under the joint management of the State Peasant Bank, the State Nobility Bank, and the Department of State Properties, the State paying interest for the time being on all mortgages on the property in question. This was to continue until all such matters had been finally settled by the Constituent Assembly. The decree was thought to be very urgent and was announced by telegraph instead of being published in the usual way through the Senate.[23]

A decisive blow was thus dealt to the landowning class, and especially to the gentry, and this, indeed, was precisely what had been intended. If, instead of taking refuge behind the phantom of the Constituent Assembly, the Provisional Government had confiscated private estates straight away and within reasonable limits, the harm done to the prosperity of the Russian people as a whole would have been infinitely less. The decree put a sudden stop to the natural process of transfer of landed property and, at the same time, deprived owners of estates of any possibility of obtaining credit, whether for a short or long period. In view of the activity of the land, the food supply, and other committees and the increasing number of pogroms and agrarian riots, the decree put private landowners in a terrible position, utterly ruining some of them and making it quite impossible for them to continue farming operations. At the same time the Minister of Agriculture threatened to prosecute them for failing to gather in the harvest.

[22] Decree of July 12, 1917.

[23] On August 24, 1917, the decree was declared not to apply to Turkestan.

Restoration of Communal Tenure.

The other decree was directed against the peasants, who were striving to throw off the fetters of communal ownership and to secure their plots as their personal property. The land laws passed by Stolypin made it possible for them to do so.[24]

Reverence for the peasant commune was one of the chief tenets of the revolutionary creed, though it was not openly expressed. On the contrary, the system of agrarian measures connected with the name of Stolypin inspired the radicals with feelings akin to horror, in spite of the fact that these measures had received the sanction of the Duma. Therefore the decree published on August 23, 1917,[25] was intended to discontinue the land reform of Stolypin and, as far as possible, to undo the consequences to which it had led. These developments are described in another monograph of this volume.

The Agrarian Policy of the Provisional Government.

One cannot help wondering why the Provisional Government, if it thought itself justified in interfering so drastically with the established economic system and boldly repealing the most important laws regulating it, had not the courage to do something constructive and radically to reorganize agrarian relations, so that agriculture could be carried on under more or less normal conditions, but preferred instead pusillanimously to withdraw behind the screen of the illusory Constituent Assembly.[26] If the Government had deemed it necessary to break down the old structure it ought not to have stopped halfway. The process of demolition should have been immediately followed by constructive work.

The only government department that was deeply concerned about the destruction of Russian agriculture was the Ministry of Food Supply. It did its best to mend matters by issuing ordinances to food supply committees such as the ordinance of August 25, ordering that such agricultural stock as was not fully utilized on private estates should be requisitioned for the needs of other farms.[27]

[24] See Bilimovich, *The Land Settlement and the War,* in this volume.

[25] The decree was put into practice earlier, for it had been brought into operation by telegraph.

[26] It was officially promised that the Constituent Assembly should meet on September 17, 1917.

[27] Circular of July 26, 1917. The whole system of food control adopted

To complete the picture we ought to mention one of the Provisional Government's measures that was, to a certain extent, constructive. It was concerned with the National Land Reserve, a matter of extreme importance in relation to the future land reform, since it was obviously a postulate of the latter that some sections of the peasantry should be given land belonging to the State. One would naturally have expected that the decree on the subject would clearly define the composition of this fund, the means of increasing, distributing, and administering it, and so forth. But the decree had evidently been drafted in a hurry; it was very short, and contained nothing new except the term "National Land Reserve"; and the only thing it did was to rename the Department of State Properties, the National Land Reserve Office, create appropriate posts, and assign the necessary credits. Accordingly the decree bears a very modest title, "the reorganization of the institutions of the Ministry of Agriculture concerned with the management of land."[28]

Changes in the Area under Crops.

Let us consider what changes took place in the agricultural life of the country during the stormy period that followed the Revolution; in doing so it will be necessary to draw a line of demarcation between 1917 and 1918.

Except in provinces near the frontier which were occupied by the enemy, or formed part of the military front, the area of cultivation cannot have been substantially reduced during the first year of the Revolution. It is true that the decrease in the cultivated area that began in 1915 and was particularly noticeable in 1916 continued into 1917. But since the winter crop harvested in the summer of 1917 had been sown in 1916, and the spring crop had been sown at a comparatively favorable moment at the beginning of the Revolution, there can have been no sharp and sudden decrease in the area under tillage, especially so far as peasant land was concerned.

by the Provisional Government and the introduction of the grain monopoly had undoubtedly a very serious effect upon the agricultural life of the country, the market, and the national food supply. But since a special volume in the present series is devoted to the consideration of these measures (Struve, *op. cit.*), we will not touch upon the subject.

[28] *Collection of Enactments,* September 9, 1917, No. 216.

We may judge of what actually happened from the materials, incomplete as they are, contained in the Agricultural Census of 1917. In thirty-eight provinces of European Russia the area of peasant land under cultivation decreased by 1,648,000 deciatines or by 3.3 per cent. In six regions out of eleven the cultivated area diminished and in five it increased. These variations had nothing to do with geographical position, quality of soil, or extent of land: cultivation had decreased both in the black-soil and in the less fertile parts, in the west and the east, in the thickly and the sparsely populated provinces—in the Lower Volga, the Ural, the Northern, the South-western regions, in Little Russia, and in White Russia. The increase had taken place in localities so widely different from one another, from the agricultural point of view, as the Central Agricultural, the Middle Volga, and the Southern regions on the one hand, and the Lake and the Central Industrial on the other; on the whole the cultivated area in those five regions had increased by 1,313 deciatines or 4.8 per cent. Similarly in Siberia and the Steppe region, where there were no large estates, the cultivated area had increased from 8,738,000 deciatines to 10,047,000 deciatines or by 14.9 per cent; more and more new land was being brought under cultivation there. But farming on private estates, for obvious reasons, went on deteriorating. Only in two, out of eleven, regions of European Russia, the area of cultivation on privately owned land remained unchanged, namely, in the Northern and Lake regions, where the number of private estates had always been insignificant. In all other regions it was considerably reduced and fell from 3,950,000 deciatines to 3,292,000 deciatines, that is, by 16 per cent. The decrease was greatest in the Volga and in the Central Agricultural regions.

The following table, based upon the figures of the Agricultural Census of 1917, gives some details as to what had happened:

CHANGES IN AREA UNDER CULTIVATION IN THIRTY-EIGHT PROVINCES OF EUROPEAN RUSSIA[29]

	Peasant land			*Land belonging to other owners*		
	1916	*1917*	*Increase (+) or decrease (−)*	*1916*	*1917*	*Increase (+) or decrease (−)*
			(in deciatines)			
Central Agricultural	7,113,000	7,375,000	+262,000	1,124,000	930,000	−194,000
Middle Volga	9,386,000	10,190,000	+804,000	644,000	496,000	−148,000
Southern (Novorossisk)	6,664,000	6,743,000	+79,000	721,000	663,000	−58,000
Central Industrial	3,165,000	3,327,000	+162,000	120,000	111,000	−9,000
Lake Country	902,000	948,000	+46,000	40,000	44,000	+4,000
Lower Volga	6,937,000	5,899,000	−1,038,000	461,000	258,000	−203,000
Southwestern	2,329,000	1,897,000	−432,000	.....	.....	.....
Little Russia	5,012,000	4,889,000	−123,000	836,000	786,000	−50,000
White Russia	2,874,000	2,332,000	−542,000	.....	.....	.....
Urals	5,022,000	4,194,000	−828,000	.....	.....	.....
Northern	677,000	639,000	−38,000	4,000	4,000	.....
Total	50,081,000	48,433,000	−1,648,000			−658,000
Asiatic Russia	8,738,000	10,047,000	+1,309,000			

[29] *Pogubernskie itogi Vserossiskoi selskokhozyaistvennoi i pozemelnoi perepisi 1917 goda* (*The All Russian Land and Agricultural Census of 1917*), Moscow, 1921.

On the whole then the area under cultivation in European and Asiatic Russia was reduced by less than one million deciatines,[30] which was not much.

The amount of land under plow began noticeably to decrease in the autumn of 1917, when the winter crop was sown; the consequences of this were felt in 1918. From that time onward the decrease became catastrophic, under the influence of the political and economic anarchy that prevailed in the country.

In 1917 the decline was chiefly marked in the case of crops for export—wheat and barley. The area under cereals used for home consumption had not altered considerably. But the conditions in which the harvest was gathered were far from satisfactory. In many parts of the black-soil belt there had been a terrible drought in the spring and early summer, when not a drop of rain had fallen; but in July, when grain was being reaped, the drought was replaced by torrential rains which delayed the harvesting and caused grain that had been stacked to rot in the fields. On the other hand, the state of things created by the vigorous activity of the administrative powers was not likely to help the work of gathering in the harvest or, indeed, to bring about normal conditions for farming as a whole. The land and food supply committees were now themselves powerless to introduce any kind of order into the prevailing chaos.

General Conditions in the Summer of 1917.

The position in the summer of 1917, in one of the typical black-soil provinces that had once been the granary of Russia, was described as follows:

> Harvest is going on, grain is being reaped, but rain prevents its being carted and, meanwhile, the horses graze on the gentry's meadows and pastures. They trample down meadows left for a second crop of hay and the gentry's oats that have not yet been cut; they damage the grain in the stacks. As there is plenty of money about, each peasant household has many more horses and cattle than before. Peasants' cattle stray about by themselves with no one to keep an eye on them. One constantly meets peasants with bridles in their hands, wandering about in search of their horses that have strayed unwatched. No commands or prohibitions, no appeals to public spirit, are any use; one

[30] 997,000 deciatines not counting Turkestan and the Caucasus.

hears the same answer from the children and the adults, "now we have been given citizenship and freedom of speech, and we may trespass anywhere and do what we like." The militia and the committees are utterly powerless to check this infatuation with "public liberty." Militiamen do not know either their rights or their duties. They lose their heads and have no idea who are their superior officers and from whom they are to take orders. There are a great many committees, a great many delegates, a great many deputies, both elected and self-appointed. There are as many interpretations of "citizenship" and "freedom of speech" as there are people in the village. In winter people were tempted by high salaries into taking jobs in government service, but now militiamen, like everybody else, are busy with their own harvest and farming. In many villages there is a regular ministerial crisis: presidents and members of innumerable committees are on all sides resigning their jobs. The big salaries are no longer alluring. "It is no good our going on," say those who have resigned, or are about to do so, "there is no getting any sense out of the district or provincial committees; in one place they say one thing and in another, another. It is nothing but worry: going to town, and then to the volost, and then to a meeting, and to endless committee meetings, and the people are utterly unmanageable and take no notice of anything. Botheration take them and their salaries."

The peasants, too, see that things are going wrong and, like the soldiers at the front, are longing for a strong Government; they say that stern measures are needed, including capital punishment.

Complete absence of educated people in the village public institutions makes itself felt in everything. Violence is sometimes due to sheer misunderstanding: the men in charge of village affairs are so unsuitable for their jobs that the results are deplorable, and often there are men who create misunderstanding on purpose to fish in troubled waters. Everyone is tired of unions and meetings; they interfere with people's work too much, and the attendance is getting worse and worse. No one is interested in the forthcoming elections for the volost zemstvo—except those who are after the loaves and fishes.[31]

At that time furious propaganda was being carried on in the villages, both by volunteers and by persons specially hired for the purpose, and the peasants' minds were in a state of utter confusion.

A correspondent writing from the province of Poltava, which

[31] *Iz kurskoi derevni* (*From a Village in the Province of Kursk*), in *Zemledelcheskaya Gazeta* (*The Journal of Agriculture*), published by the Department of Agriculture, 1917, Nos. 38–39, p. 675.

was comparatively quiet, gives the following interesting account of the people's attitude:

The "glorious dawn" of the February Revolution inspired the population with the most radiant hopes, as everywhere else in Russia. . . . Faced with a number of unexpected problems and difficulties, the peasants were anxious for guidance and help. As though in answer to this, public speakers from the towns flocked to the country bringing the "last words" of political wisdom and the most incendiary catchwords. These catchwords flung at random among the ignorant masses and understood but vaguely, or utterly misunderstood, led to still greater confusion.

Thus, a correspondent from the Kobelyaksky district writes, "a speaker explained that we need not pay any taxes, and that if anyone had borrowed money he need not refund it; nor is there any necessity to pay the banks; he says anything that has been lent is as good as lost."

Another correspondent writes from the Zenkovsky district:

It is only now, in August, that for the first time since the Revolutions trouble-mongers have come to our village to disturb the people: some canvass for one party and others for another, and meetings are held every day. I have not any time to spare from work, but I do want to hear what is being said; though, indeed, it is not worth listening to.

A letter from the Priluky district says:

Speakers often hold forth in the villages and they all say different things: some urge us to abide by the law and to help the army by giving grain and money, which is a good thing; but others ask us to give our utmost to the Trade Union and say nothing about the War. They speak most of all about the land: we are to divide it among ourselves, to confiscate it from the owners and give it to the State, and then take it from the State for ourselves. They have created such a confusion among the people that the countryside is like a seething cauldron. It would be a good plan if the speakers were authorized by the Government, instead of speaking entirely on their own and saying anything they like, and leading people astray.

The position became dangerous from the moment when the village and volost land and other committees began to put the propagandists' catchwords into practice. The "original sin" of these committees was that they were self-constituted and consisted of people who were often utter strangers to the locality. Not infrequently, too, they were men

with a shady past, who had once been imprisoned for theft and burglary, and now, for some mysterious reason, had risen to the crest of the revolutionary wave.

And now the folks have simply gone off their heads and do not know what they are doing. . . . People may say what they like about simple peasants, but if only they were left in peace they would think things over and, with God's help, do something good. Only, they ought to have really good men to advise them and not sedition-mongers.[32]

The mentality of the peasant masses was profoundly disturbed; they had utterly lost their bearings. All consciousness of social unity disappeared and the rural districts went from bad to worse. The conditions under which the crops had to be reaped have been described already, and it was no wonder that considerably less grain was harvested than had ripened. A large part of the harvest was simply wasted. The sowing of the winter crop in the autumn of 1917 obviously could not be carried on in the normal way. The local committees dismissed farm laborers, even if they were prisoners of war, from private estates that had survived the pogroms, fixed an utterly preposterous scale of wages, "requisitioned" supplies of food and fodder, live stock and agricultural machinery. Trees were cut down, meadows and fields damaged by cattle, land was taken away. No credit was to be had. It required some moral courage to sow crops for the next year in such conditions. The disadvantages of the situation soon came to be felt, not by the landed gentry only, but by the peasants as well; especially by those of them who possessed a plot of land of their own and had left the commune, or were comparatively well off for land and had to employ hired labor. The peasantry who had got hold of the gentry's land, either by violence or with the connivance of the land and other committees, and were not confident about the legality of their title to it, made haste to sow the plots they had appropriated, so that at least they might gather a harvest from them; they left their own land unsown or, on occasion, let it to settlers who came from the towns in growing numbers. These newcomers were either incapable of working on the land or had lost the habit of it, and, possessing neither live stock nor tools, did not know what to do with their newly acquired plots. The government monopoly of grain and the consequent request

[32] A letter from the province of Poltava, published in *Zemledelcheskaya Gazeta*, September 9, 1917, Nos. 32–34.

that all "surplus" grain should be sold to the State, caused the peasants to hide their stock of grain, which was often spoiled in consequence; thus there was artificially created a shortage of seed grain. As a result of the general atmosphere of uncertainty about the future, people were anxious to sow only so much grain as was needed for their own consumption.

Area under Crops in 1918, 1920, and 1921.

In the spring of 1918, agricultural Russia was in the throes of an agrarian revolution; the remainder of the gentry's estates were being finally destroyed and there was much crude interference with peasant farming on their privately owned land. The breakdown of regular railway transport and the civil war had caused the Russian territory to be divided into isolated areas, each of which was striving to live its own independent life. The particular conditions in each of them were different, but the general state of instability and almost of chaos was everywhere the same.

Under such conditions it was, of course, impossible to expect that as much land should be cultivated as in 1917 and that the harvests should remain at their former level. The area under cultivation and the average yield per deciatine decreased.

No exact data are available to show how much land had gone out of cultivation in 1918 and, indeed, statistics could hardly have been collected in the circumstances. We must base our conclusions on certain indirect considerations.

Statistical material at our disposal enables us to compare areas under cultivation in thirty-three provinces of European Russia, and fourteen provinces of Asiatic Russia in 1917,[33] 1920, and 1921[34] and to infer from these the probable area under cultivation in the same provinces in 1918 and 1919.

The results of the comparison are contained in the following table.

[33] *The All-Russian Land and Agricultural Census of 1917*, Moscow, 1921.

[34] *Statisticheski Ezhegodnik Rossii, 1918–1920* (*Statistical Annual for Russia, 1918–1920*), published by the Central Statistical Bureau, Vol. VIII, Moscow, 1921.

AREA UNDER CROPS

Parts of Russia	*1917* (*in thousands of deciatines*)	*Index numbers*	*1920* (*in thousands of deciatines*)	*Index numbers*	*1921* (*in thousands of deciatines*)	*Index numbers*
European Russia						
Black-soil region (twelve provinces)	21,810	100	12,844	58.7	10,804	49.5
Little Russia (six provinces)	11,864	100	10,335	87.1	9,379	79.1
Less fertile parts (fifteen provinces)	11,748	100	8,065	68.9	6,890	58.8
Asiatic Russia						
Steppe region and Siberia	10,778	100	9,299	86.4	6,631	61.5
Total	56,200	100	40,543	77.9	33,704	59.9

These figures, based upon observations that refer, roughly speaking, to three-fourths of Russia as it was after 1918, give ground for supposing that in the remaining part of the territory the decrease in the cultivated area proceeded at approximately the same rate. If this supposition be granted the area under cultivation within Russia's new frontiers was probably, in 1918, 73 million deciatines and in 1919, 67 million deciatines.

The reduction was most marked in the black-soil belt of European Russia, and least pronounced in Little Russia.

The Food Situation.

Three months after the introduction of the detailed and complicated system of food control by the Provisional Government, the country, and especially the towns, proved to be in a terrible plight with regard to the most necessary commodities. The state of things was vividly depicted at the Congress of the Constitutional Democratic party in Petrograd at the end of July, 1917.

It was shown at the Congress that the grain monopoly had been a failure, and M. Shingarev himself, the former Minister of Agriculture who had been responsible for the Government's policy with regard to food control, though he still defended that measure in principle, admitted that in practice it had made matters worse.

The failure was due [he said], not to the principle being wrong, but to extraneous circumstances. We had to introduce the monopoly at a time of complete apathy, disintegration of the State, and anarchy. Each food supply committee wanted to issue laws on its own account instead of obeying the law of the State. Food supply committees ought to have worked particularly hard in the summer, but we spent the summer under the spell of a dreadful political nightmare. The outlook with regard to food supplies is very bad indeed. In addition to everything else we are threatened with a fresh danger—in the provinces there is a distinct tendency to make provisioning the country the monopoly of a single class and a subject for social conflict, instead of attracting to it all the vital forces of the country.

When rivers are frozen in the autumn the position will become menacing. Those who fail to supply the population with food will destroy the Revolution as the monarchy has been destroyed. Socialists do not realize that they themselves are the chief agents of counter-revolution.[35]

The critical position of the capital in respect of food supplies and the influence of the grain monopoly upon the producers were brought out very vividly at the Congress.

Madam Tyrkova, a member of the Petrograd Municipal Council [says the report], gave a most damaging account of Groman's proceedings,[36] of which the Municipal Council had ample evidence. Instead of the 32 million puds of grain that it is supposed to have per month, the population receives only 8 million puds.[37] But Groman is not content with this: he is now introducing government monopolies for all perishable foodstuffs. On July 13 the Minister of Food Supply, at his instance, fixed the price of butter and forbade the sale of it to private persons. The fixed price is below the cost price. This measure deals a death blow to the well-organized dairy-farming industry in the northern provinces of Russia. While introducing a government monopoly in eggs, Groman has not taken the trouble to make arrangements for buying and storing eggs. Now he is thinking of a monopoly

[35] See the report of the proceedings under the title, *Prodovolstvennaya razrukha* (*Food Crisis*), in *Novoe Vremya*, July 25, 1917.

[36] The food dictator of the capital.

[37] All these calculations are utterly fantastic; the population of the capital, with the best will in the world, could not consume such a quantity of grain. It was reckoned that Petrograd required about 24 million puds a year. See Chapter VIII.

in vegetables. . . . Groman's activity, like that of Chernov,[38] is essentially counter-revolutionary. They have the same contempt for individuals as the representatives of the old *régime* had. Groman is a national danger. . . . By the end of November we shall be starving. . . .

The delegate from Vyatka, M. Lalaev, said:

Government monopolies have undermined the productive resources of the country. Before it is too late we must say "no more monopolies," at any rate until the Constituent Assembly meets. Monopolies mean simply a gradual socialisation of the country and destroy both its material and spiritual resources.

Professor Kossinsky came to the conclusion that

we have made many mistakes with regard to food supply and we go on making them. . . . Now the position is made worse by the general anarchy and by the activity of Chernov, who is, by the way, a rank counter-revolutionary. Groman's policy has completely undermined the economic resources of the nation. We must give up, once and for all, State regulation of the economic life of the nation. The peasants, who produce nine-tenths of all the grain grown in the country, do not give us any. How are you to force them to bring corn to the towns? . . . Groman is the evil genius of the country.[39]

It is, of course, another question whether the blame is to be laid upon this or that individual or upon the system. In any case, it is certain that in the summer of 1917, the situation in the big cities with regard to food became desperate and that the sources of supply began to fail. In the autumn of 1917 and in 1918 things inevitably went from bad to worse because the circumstances that caused the trouble were more pronounced than ever.

Stock Breeding.

The shortage of grain was naturally bound to affect stock breeding. Thoroughbred cattle on private estates were exterminated at the end of 1917 and during the "division of land" in 1918. The turn of the peasants' cattle came next. Owing to the lack of foodstuffs a number of cattle were slaughtered for meat and still more of them perished from hunger, lack of care, and epidemics.

[38] The Minister of Agriculture.

[39] See *Novoe Vremya,* July 25, 1917.

In thirty-four provinces of European Russia for which statistical data are available, the number of live stock in 1919, as compared with 1917, had decreased by 20 per cent, of sheep by 24 per cent, of pigs by 42 per cent.[40]

The following table illustrates the position with regard to live stock in 1916 (which was not altogether a normal year) and 1919 in three black-soil provinces selected at random:

NUMBER OF LIVE STOCK

	1916[41]				*1919*[42]			
Provinces	*Horses*	*Cattle*	*Sheep*	*Pigs*	*Horses*	*Cattle*	*Sheep*	*Pigs*
				(*in thousands*)				
Kursk	682	740	2,013	371	131	127	314	77
Tambov	648	842	2,371	367	222	263	619	99
Samara	1,267	1,498	3,433	476	903	862	1,919	276
Total	2,597	3,080	7,817	1,214	1,256	1,252	2,852	452
					Percentage of decrease			
					48	60	64	63

If the two central agricultural provinces (Tambov and Kursk) alone are considered the picture will be still more overwhelming; the number of horses and cattle there was reduced to one-fourth (27 per cent) of what it had been in 1916, and the number of pigs and sheep to slightly more than one-fifth (21 per cent sheep and 23 per cent pigs). In the Kursk province there remained only 96,000 horses capable of work; 363,000 deciatines were sown; there were therefore on the average 5.4 deciatines (14.6 acres) of land under crops, and, consequently, 3.8 deciatines (10.3 acres) of plowed land, per horse. This was considerably more than the normal area.[43] And since peasant horses at that critical period were not merely underfed, but actually starved, it is clear that the peasants had to make desperate efforts in order to do the sowing and

[40] *Trudy Tsentralnago Statisticheskago Upravlenya* (*Reports of the Central Statistical Bureau*), Vol. VIII, Moscow, 1921, pp. 346–347. It must be borne in mind that the Statistical Bureau was distinctly optimistic and that, in reality, the position was probably worse than they made out.

[41] *The All-Russian Agricultural Census of 1916*, I, 472–473, 508–509.

[42] *Statistical Annual for Russia, 1918–1920*, pp. 351–353.

[43] 2.9 deciatines (7.8 acres) of land under crops and 3.9 deciatines (10.5 acres) of plowed land.

could not have sown more than they did. The area under crops in the Kursk province was 18 per cent, or one-fifth, of what it had been in 1916; but if the horses did the normal amount of plowing the peasants of the Kursk province could not have sown in 1919 more than 278,000 deciatines.

The Market.

It is impossible to speak of the market, in the accepted sense of the term, at that tragic period of Russia's economic history. Serious restrictions on freedom of commerce were introduced soon after the War began. In the spring of 1917 the idea gained ground that private trading should be gradually abolished and open markets be replaced by a system of government distribution. This idea lies at the root of all the Provisional Government's measures, but its complete realization was accomplished by the Communists. If it be remembered that the currency was considerably depreciated at the end of 1917 and that in 1918 complete chaos prevailed with regard to it, while the different parts of Russia were isolated from one another, it will be easily understood that there could have been no question of an all-Russian market at that time.

The Ukraine, the Don, Kuban, and Terek territories, and Siberia still carried on trade of a sort, though hampered by all kinds of regulations; but the rest of Russia merely "distributed" commodities by means of an incredibly huge and absurd bureaucratic organization and punitive expeditions.

Economic relations of central Russia with the north and the south were maintained by a whole army of "bagmen" who, at constant peril to their lives, brought foodstuffs from the south. This peculiar kind of trade was necessary and salutary; without it the population of the towns in northern and central Russia would have died out and that of the country would have considerably diminished.

Prices.

Detailed figures have already been given to illustrate the fluctuation of prices during the War. The general position was as follows: in the first three years of war the price of agricultural produce increased slowly but steadily owing to obvious economic causes; toward the end of those three years, as a result of an artificial segre-

gation of the various markets of Russia, there was a striking discrepancy between prices in the "producing" and the "consuming" parts of the country; in the latter the prices rose more rapidly, though the difference in the rate of increase was comparatively small.

In 1917 all these characteristic symptoms greatly developed, owing to government pressure; fluctuations of prices became extreme; prices rose much more rapidly; the difference between the levels of prices in various markets grew more marked. In the course of one year the price of rye had increased four and a half times in the black-soil regions; in the Industrial region it had risen ninefold.

The Russian market as a regulator of prices was rapidly ceasing to exist. There was no connection between the different parts of Russia, between town and country, between wholesale and retail, fixed and free prices, between "bread by the rationing cards" and "bread bought on the sly." The enormous sums that the consumers paid in big cities for bread and meat were out of all proportion to the profits made by the producer, and as this discrepancy increased, the appetites of the profiteers—whether private or public, collective or individual—increased also. In anxiety and dismay the townspeople rushed from the provisions board to the municipal councils or the zemstvos, to coöperative stores or public unions, encountering everywhere the same barrier of profiteering middlemen, to find their only salvation in the bagmen or the market which still existed in some places.

CHAPTER XIII

CONCLUSIONS

The data that we have had before us in considering the development of Russian agriculture in pre-war years and during the Great War enable us to form certain conclusions both about the general character of the development and the changes in its rate and direction brought about by the War.

After the patriarchal epoch of serfdom, when farming almost entirely subserved the immediate needs of the producers, Russian agriculture during the last third of the nineteenth and the beginning of the twentieth century went through a remarkable evolution, the nature of which was largely determined by two factors, namely, the rapid growth of population and the necessity of conforming to the new conditions of the market.

During the fifty-three years that passed between the emancipation of the serfs and the beginning of the Great War the population of Russia more than doubled, reaching the impressive figure of 182 millions; the rate of increase, considerable as it had been in the nineteenth century, was still greater in the twentieth.[1]

The very rapid increase in needs of the public and, primarily, in their need for foodstuffs, set Russian farming the difficult and complicated task of raising production accordingly.

This task was brilliantly accomplished. Two methods were used, extensive and intensive; new virgin soil was put under cultivation, and the productivity of the land already under cultivation was raised.

The extensive method, closely connected with the growth of colonization within the Empire, was easy, because a practically unlimited amount of good land was available; but there were difficulties, owing to the enormous distances and the uncertainty of the Government's land policy. The process of home colonization was, therefore, less rapid than one would have wished. It should be noted, however, that, even in European Russia, in comparatively densely

[1] According to official computations, the population of the Russian Empire in 1858 was 75 millions; in 1870 it was 85 millions; in 1897, 126 millions; at the end of 1914 (as calculated by the Central Statistical Committee), 182 millions.

populated districts that had been colonized long ago, there was plenty of room for extending the cultivated area; a great deal of land was lying fallow and much of it had not been used at all.

In any case, the amount of land under cultivation was increasing continually and, from the beginning of the twentieth century, there was a certain correlation between the growth of population and the increase in the arable area, though the latter progressed at a slower rate. Thus, the task of feeding the increasing population might have been more or less satisfactorily solved even had the harvests remained stationary.

But during the last quarter of the nineteenth century Russian agriculture was steadily becoming more intensive and consequently harvests and gross receipts were growing larger. In the twentieth century the improvement was even more marked. Agriculture and allied industries throve more and more. Crops requiring a great deal of labor were cultivated, the amount of fallow land was decreasing, the use of fertilizers was spreading, the invested capital was more profitably employed.

The cultivation of grain was still of paramount importance, but other crops were also grown in increasing quantities: sugar beet, flax, sunflowers, temporary grasses, etc. At the same time certain important agricultural industries developed, three of which—distilling, sugar refining, and butter making—rapidly reached a flourishing condition. Other industries, such as flax and tobacco growing, wine making, seed crushing for oil, had every chance of doing well in the near future. Even the most backward branch of Russian farming, stock breeding, clearly showed signs of serious improvement.

It is worth noting that Russian farmers have given ample evidence of a rare faculty for developing some particular branch of intensive agriculture while the rest of their agricultural technique remained primitive. We may take as instances the cultivation of sunflowers in the Kuban territory, market gardening in the north of Russia, and, especially, dairy farming in western Siberia and the Vologda-Yaroslavl region.

Intensive agriculture requires the presence of three conditions: an increase in the amount of (1) labor and (2) capital applied to a given unit of land, and (3) the spread of technical knowledge and training.

The first condition was easily fulfilled in the well-populated parts of the Empire. The second condition was much more difficult to realize in a country so poor in capital as Russia; the predominance of peasant farming on a small scale and the communal system of land tenure among the peasantry checked the investment in agriculture of such capital as was available.[2] These difficulties, however, were gradually being surmounted, largely owing to the widely spread organizations of a coöperative type, especially coöperative credit banks, which were the main channel for bringing working capital to the aid of agriculture. The activity of the coöperative societies, in conjunction with that of the Department of Agriculture, the zemstvos, and the societies for the promotion of agriculture, greatly helped the realization of the third condition—the improvement of agricultural technique.

[2] The communal system of landownership lasted in Russia longer than in any other country. The political crisis of 1917–1918 resulted in a short-lived revival of the communal spirit, which expressed itself in numerous redistributions of land, in connection with the expropriation of private estates.

The peasant commune had always been in favor with Russian literature and the educated classes. It was regarded with a kind of pious esteem. People believed in it. They ascribed to it the power of bringing the economic evolution of Russia to the stage of collectivism—the exact form of which had, however, never been clearly defined—without passing through the usual developments of the capitalistic system. Most of the Russian economists in the second half of the nineteenth and the beginning of the twentieth century were ardent admirers and champions of the land commune.

This way of thinking, however, completely overlooked the fact that communal ownership of land can, as such, have no absolute value; its value, like that of every other economic factor, is relative. At a certain stage of economic development the commune may be a good thing, but when the conditions change it may actually hamper the evolution of agriculture. It was a mistake of method to pass wholesale judgments upon the Russian commune in the twentieth century, for economic conditions differed widely in the different parts of the vast country: in western Siberia the commune might still play a valuable part in the economic life of the people, while in the central agricultural district of Russia, say in the province of Kursk, it had begun to hinder its normal development.

It is not relevant to our present purpose to consider in detail this interesting feature and to decide between the arguments for and against the commune; a mere statement of fact will suffice. From this point of view there cannot be any doubt that the influx of fresh capital into agriculture was seriously hindered by the communal form of ownership, at any rate in European Russia.

As a result of all this, gross revenue from farming increased steadily and at a rapid rate. Russia largely supplied the markets of western Europe with foodstuffs and may be said to have been the "granary of Europe," providing it with splendid produce at low prices.

Agricultural progress was exemplified by two main groups of farms: peasant farms and private estates. The latter were very few as compared with the peasant farms, but were on a far higher level of agricultural technique and brought in a bigger gross revenue. It would hardly be possible to call the farming on private estates a capitalistic undertaking in the usual sense of the term. For the most part it presented a peculiar mixture of organizing enterprise with traditions inherited from the patriarchal state of society, with devotion to one's native land and a desire to serve it. The complexity of the landowners' psychology and the fact that they were not sufficiently businesslike were, no doubt, among the reasons of their economic weakness as a class. They began gradually to develop business abilities in the last few years before the War, but this was too late to make any appreciable difference, since the general condition of the country was undergoing a radical change.

There is no doubt that peasant farming was more successful in adapting itself to the new conditions of the market and especially of the foreign market upon which Russia was dependent. In spite of the archaic form of the communal ownership of land, which hampered economic activity, in spite of the comparative overpopulation in some of the districts as a result of the communal system and the acute shortage of land in places, peasant farming proved to be more stable and, on the whole, capable of rapid and successful adaptation to changes in market conditions.

As a consequence of this, landed property was steadily passing from the gentry's into peasants' hands. The amount of land owned by the gentry was decreasing more and more rapidly as time went on. The cultivated area on peasant farms was increasing, and diminishing on private estates.

Among the peasantry the number of individual farms was increasing at a faster rate than the population. In several parts of Russia this meant that the plots available for each peasant household were being reduced in size and there was great anxiety on the part of the peasants to obtain more land. The new agrarian laws

introduced by Stolypin somewhat improved the situation, but they had not been in force long enough to bring about throughout the country a perceptible change.

In addition to the privately owned and the communal land, there was the land owned by the Crown. Most of it was under forest and practically all that the Government did with regard to it was to investigate and survey it and to see that growing timber was not felled at random. This was, of course, of the utmost importance for preserving the forest wealth of the country for future generations; but at the historic moment of which we are now speaking, proper exploitation of forests had hardly begun.

The condition of Russian agriculture at the beginning of the Great War might be compared to that of a richly endowed young man who has got over the ailments of childhood and is just beginning to be conscious of the great strength latent in him and to make use of it. The War did not affect the economic life of Russia at once, and its influence was far from uniform. During the early months the bad effects of it, such as shortage of labor due to mobilization, difficulties of communication with foreign markets, etc., were but little felt. The villagers, indeed, were in some ways better off than they had been, for both material and psychological reasons.

On the one hand the War brought about a great increase in spare cash in the villages and, on the other, it curtailed the export trade and enlarged the home market for agricultural produce, which was purchased for the army, both by the Government and by public bodies. The prices of agricultural produce rose.

These were the material changes due to the War. Psychological considerations were equally important. The patriotic enthusiasm that prevailed among all classes in the first months of the War caused the farmers to display greater energy and made them realize the necessity of not merely maintaining production at the old level, but of actually increasing it in order to preserve and defend the dignity of their country. This patriotic fervor will remain a permanent historical acquisition of the people and will certainly bear abundant fruit in the future.

The most vulnerable element of Russian agriculture was, no doubt, the farming on private estates. Shortage of labor and export difficulties had but little effect on the peasants, but inevitably

hit the landed gentry very hard; and the distrust and ill will with which for some reason their farming was generally regarded, naturally made things worse for them. In spite of this, however, they were able to carry on.

In the twentieth century the landed gentry passed through two serious crises, both of a political rather than of an economic character. The first was due to the revolutionary outburst of 1905–1906. Just before that time farming on private estates had been making rapid progress and, although the amount of the gentry's land had decreased, the area they had under crops had reached its maximum in 1904 (24 million deciatines). After 1906 their farming deteriorated and the cultivated area decreased, but later on it began to improve again. In the first year of the War the area under cultivation on their estates reached another maximum (21.8 million deciatines). But then another crisis came with the Revolution of 1917, which crippled farming on private estates and, at last, destroyed it utterly, at any rate in the form in which it had existed before the War. A sharp reduction in the area of cultivation on large estates was observed as early as the second year of the War and has continued ever since.

Opinions may differ with regard to the social importance of the political influence of the landed gentry as a class. There can, however, be no question that it was mainly owing to its downfall that Russia ceased to be "the granary of Europe."

The effect of the War upon peasant farming was very different. When the War began it had not yet finally lost its primitive form of production for consumption on the farm, and was not run on modern lines of business enterprise or irrevocably connected with the market—and this fact proved to be its salvation at that trying moment. It not only remained unshaken but went on developing further. The area under cultivation by peasants considerably increased in the second year of the War.[3] A certain reduction in it during the next two years was of no great importance for peasant farming as such,[4] although it had an unfavorable effect upon the economic position of the country as a whole. The unfortunate consequences inevitably connected with a war of such magnitude as

[3] By 18.5 per cent in European Russia.

[4] The decrease in cultivated area per peasant household in 1917, as compared with 1916, was only 0.2 deciatine.

that of 1914–1918 might affect peasant agriculture in some slight degree but could not undermine its stability.

A detailed analysis of the changes in the economic life of the country under the influence of the War[5] undoubtedly leads to the conclusion that when hostilities ceased Russian agriculture was still one of the important economic factors in the world. The forces that had made Russian agriculture what it was and gave reason to hope for its brilliant development in the future, were still as vital as ever. An essential difference from the pre-war days was that private farming on a large scale, which had closely connected Russian agriculture with the world market, had ceased to exist. For the time being the only farmers in Russia are peasants.

Russian agriculture has had to bear the brunt of the terrible revolutionary upheaval of 1917–1918, which affected even the peasantry. It has now entered upon a new complex phase, the investigation of which lies outside the scope of the present work.

[5] See Chap. V.

APPENDIX I

AREA UNDER CULTIVATION ACCORDING TO THE DATA OF THE ALL-RUSSIAN AGRICULTURAL CENSUS OF 1916

Crops	*European Russia*	*Caucasus*	*Steppe region*	*Siberia and the Far East*	*Turkestan*	*Total for the Empire (excluding provinces occupied by the enemy)*
			(in deciatines)			
Rye	20,772,300	74,400	44,000	1,061,500	31,900	21,984,100
Wheat	15,784,400	3,173,500	2,067,100	3,220,200	1,329,900	25,575,100
Oats	12,921,900	249,500	439,600	2,052,800	24,100	15,687,900
Barley	8,228,000	1,483,600	151,600	205,500	276,400	10,345,100
Millet	2,188,600	290,200	272,500	79,000	92,000	2,922,300
Buckwheat	1,816,200	3,800	1,100	99,100	6,700	1,926,900
Spelt	202,700	4,600	100	3,400	6,000	216,800
Total	61,914,100	5,279,600	2,976,000	6,721,500	1,767,000	78,658,200
Oil-producing plants and plants used in industry	2,486,600	362,400	39,000	167,200	40,700	3,095,900
Potatoes	2,334,600	47,500	20,600	109,600	4,100	2,516,400
Green fodder crops	1,924,900	84,800	700	56,600	.....	2,067,000
Maize	1,262,600	500,300	1,000	7,700	47,000	1,818,600
Leguminous plants	767,300	4,000	2,600	28,900	11,600	814,400
Other crops	1,019,600	175,000	20,200	41,600	396,400	1,652,800
Total	71,709,700	6,453,600	3,060,100	7,133,100	2,266,800	90,623,300

APPENDIX II

NUMBER OF HORSES FOUR YEARS OLD AND OVER IN EUROPEAN RUSSIA

Regions	*Actual numbers* 1914	1915	1916	*Index numbers (1914 = 100)* 1915	1916
Central Agricultural	2,405,200	2,157,800	2,261,300	90	94 (101)
Middle Volga	2,290,800	2,230,400	2,253,800	97	98 (97)
Lower Volga	1,643,600	1,591,300	1,921,800	97	117 (115)
Southern (Novorossisk)	2,629,000	2,422,700	2,746,600	92	105 (98)
Southwestern[1]	913,800	821,000	887,900	90	97 (94)
Little Russia	1,304,700	1,218,300	1,270,000	94	98 (106)
Total for the black-soil zone	11,187,100	10,441,500	11,341,400	98	101 (102)
Moscow Industrial	1,290,200	1,159,800	1,171,500	90	91 (91)
White Russia	1,320,700	1,240,400	1,259,900	94	96 (90)
Lake	634,800	590,800	603,200	93	95 (93)
Urals	1,432,600	1,309,500	1,391,600	92	97 (104)
Baltic[2]	207,200	177,500	195,300	86	94 (92)
Northern	304,800	300,400	289,300	98	95 (115)
Total for the less fertile parts	5,190,300	4,778,400	4,910,800	92	95 (96)
Total for forty-five provinces	16,377,400	15,219,900	16,252,200	93	99 (100)

[1] Excluding Volhynia.

[2] Excluding Courland. The data for 1914 and 1915 are taken from figures published by the Veterinary Department and for 1916 from the Agricultural Census. The above also refers to other tables with regard to cattle breeding.

[3] See p. 169, n. 5.

APPENDIX III

NUMBERS OF CATTLE IN EUROPEAN RUSSIA

Regions	Actual numbers 1914	Actual numbers 1915	Actual numbers 1916	Index numbers (1914 = 100) 1915	Index numbers (1914 = 100) 1916	In 1916 number of cows per bull	In 1916 number of calves per 100 cattle
Central Agricultural	3,457,700	3,201,800	4,317,500	93	125	67	91
Middle Volga	3,382,700	3,330,500	4,440,700	99	131	59	100
Lower Volga	2,596,300	2,678,100	4,377,600	103	169	26	105
Southern (Novorossisk)	4,524,700	4,283,800	6,084,600	95	135	23	91
Southwestern	1,589,800	1,509,400	1,887,400	95	119	41	88
Little Russia	2,267,500	2,053,400	2,865,000	90	126	31	83
Total for black-soil zone	17,818,700	17,057,000	23,972,800	96	135		
Moscow Industrial	2,656,500	2,226,300	3,021,900	84	114	67	83
White Russia	3,049,600	2,793,600	2,766,000	92	91	59	57
Lake	1,536,300	1,406,100	1,933,000	92	125	74	66
Urals	2,473,400	2,409,400	3,280,900	98	133	27	86
Baltic	777,700	671,600	780,000	86	100	32	88
Northern	789,500	683,200	1,000,800	87	127	65	68
Total for less fertile parts	11,283,000	10,190,200	12,782,600	90	113		
Total for forty-five provinces	29,101,700	27,247,200	36,755,400	94	127	42	87

APPENDIX IV

NUMBER OF SHEEP AND GOATS IN EUROPEAN RUSSIA

Regions	Actual numbers 1914	1915	1916	Index numbers (1914 = 100) 1915	1916
Central Agricultural	6,960,900	6,609,500	12,200,000	95	175
Middle Volga	6,703,900	6,644,200	11,739,400	99	175
Lower Volga	3,910,400	4,452,400	8,662,900	114	222
Southern (Novorossisk)	4,998,800	5,003,500	8,353,000	100	167
Southwestern	1,180,500	1,073,100	1,258,600	91	107
Little Russia	2,067,800	2,032,200	3,168,000	98	153
Total for black-soil zone	25,822,300	25,814,900	45,381,900	100	176
Moscow Industrial	1,802,200	1,423,100	3,480,300	79	193
White Russia	2,184,700	2,039,100	3,896,800	94	179
Lake	807,200	840,000	1,868,000	104	207
Urals	2,918,100	3,012,100	4,943,300	103	169
Baltic	719,800	568,500	856,100	79	118
Northern	569,900	481,700	737,600	85	130
Total for the less fertile parts	9,001,900	8,364,500	15,782,100	93	176
Total for forty-five provinces	34,824,200	34,179,400	61,164,000	98	176

APPENDIX V

NUMBER OF PIGS IN EUROPEAN RUSSIA

Regions	Actual numbers 1914	1915	1916	Index numbers (1914 = 100) 1915	1916
Central Agricultural	1,251,500	1,131,700	1,985,400	90	159
Middle Volga	795,500	738,500	1,298,600	93	163
Lower Volga	354,000	416,900	857,600	119	242
Southern (Novorossisk)	1,739,500	1,762,400	2,995,000	112	172
Southwestern	949,800	901,000	1,010,000	95	108
Little Russia	1,310,300	1,238,300	1,817,400	95	139
Total for black-soil zone	6,400,600	6,188,800	9,964,000	97	156
Moscow Industrial	496,700	424,300	643,000	85	129
White Russia	1,621,700	2,097,200	2,814,300	130	174
Lake	255,900	238,800	312,600	93	122
Urals	535,100	566,600	1,372,700	106	256
Baltic	357,400	266,400	461,100	75	129
Northern	73,700	63,200	90,100	86	122
Total for the less fertile parts	3,340,500	3,656,500	5,693,800	110	170
Total for forty-five provinces	9,741,100	9,845,300	15,657,800	101	161

THE LAND SETTLEMENT IN RUSSIA AND THE WAR

BY ALEXANDER D. BILIMOVICH

PREFACE

The War came upon Russia at a time when, as a result of the new agrarian policy of the Russian Government, her whole agrarian organization and her farming were being thoroughly remodeled. The reorganization of farming, which is the main branch of Russian production, naturally led to great changes in the country's whole economic system. For this reason one of the most important consequences that the War had for Russia was its influence on the progress of land settlement.

The extensive scale on which land settlement was developing in Russia is characteristic of her pre-war economic life. In fact, as a result of land settlement, a new and powerful peasant Russia was rapidly developing. This process of evolution was gradually preparing the ground for the final consolidation of economic and social relations in that great peasant State. The fatal effects of the War and of the Revolution that followed it on the progress of land settlement furnish, therefore, one of the most dramatic pages in the economic and social history of the World War.

The preparation of this monograph met with considerable difficulty. The books and, particularly, the official publications known to the present writer could not all be obtained outside Russia. As a result, the necessary data were not in all cases available, while in others they had to be taken from other authors' works, instead of the original sources. Many data bearing on the progress of land settlement during the War were most courteously supplied to the author by the then Director of the Department of Land Settlement, P. P. Zubovsky, to whom the author has the pleasure of expressing his deep gratitude.

CHAPTER I

THE DEFECTS OF RUSSIA'S AGRARIAN ORGANIZATION BEFORE THE REFORMS OF 1906

The Emancipation of Serfs.

THE ten years preceding the outbreak of the War were in a sense as critical for Russian agriculture as the early sixties of the nineteenth century, when serfdom was abolished. There was not only a superficial resemblance between the two periods, but also a fundamental connection: the agrarian relations which had to be readjusted by the land settlement of the twentieth century were a direct outcome of conditions created at the time of the emancipation. At that time much was left undone. The great peasant reform was defective both in scope and method. The area of land allotted to each peasant on emancipation was not always sufficient to enable him to farm it on economic lines, and the soil was often of poor quality, whilst the "redemption payments" imposed on the peasants were, in some localities, too high, being fixed without due regard to the yield of the land. In some districts certain classes of serfs received even less land than they were allowed to cultivate before the abolition of serfdom. Moreover the landlord might, by agreement with them, surrender to the peasants a quarter only of the normal area of land, as fixed for the locality, the peasants being then relieved of redemption payments and the landlord forfeiting his compensation. About 6 per cent of the landlord's serfs, mostly in the southeastern provinces, agreed to accept these "quarter" or "gratuitous" allotments. Finally, the *dvorovy*, or serfs employed in the landlord's manor or household, who did not carry on any farming on their own account, were liberated without receiving any land at all. These landless peasants numbered 720,000 males out of a total of 10,000,000 of landlords' peasants.

The peasants on appanage estates, that is, those who lived on lands belonging to the Imperial family, were better provided than the landlords' serfs. These peasants, over 900,000 in number, received the whole of the land formerly in their actual possession, and where this area was insufficient to supply allotments of normal

size, the deficiency was made good from the rest of the estate. Even more favorable in respect of the size of their allotments was the lot of the nine and a half million peasants on lands belonging to the State. The general distribution of landed property, resulting from the emancipation of the peasants, can be seen from the following figures, which relate to the year 1877:

DISTRIBUTION OF LAND IN 1877

	Deciatines	*Percentage*
Peasants' lands	116,700,000	31.0
Lands belonging to the State, Appanages, churches, monasteries, municipalities, and various institutions	166,300,000	44.1
Lands of private owners	94,000,000	24.9
Total	377,000,000	100.0

On the average for the whole of Russia, landlords' serfs received 3.2 deciatines (8.6 acres) per male person, those on appanage estates, 4.9 deciatines (13.2 acres), and State peasants, 6.7 deciatines (18.1 acres). In particular districts, however, the actual allotments varied widely from these averages.

The inadequacy of the land distributed necessarily left many of the peasants in a precarious position. This view was maintained in several scientific works on the subject published soon after the emancipation, for instance, in the well-known work of Professor Yanson;[1] although the author admits that "in Russia, landownership is more democratic than in any country of Western Europe."

As time went on, the position of the peasantry tended to grow worse, because while the population was rapidly increasing, the technical level of peasant farming remained stationary; and owing to the slow development of industry, the towns were unable to absorb the surplus population of the country districts. Consequently, in various regions and, particularly, in the central provinces of the black-soil area, in which industry was undeveloped, a serious depression began to make itself felt in peasant farming. Most Russian writers attribute this depression to the insufficient area of land in

[1] Y. E. Yanson, *Opit Statisticheskago Yzsledovanya o Krestyanskikh Nadelakh i Platezhakh* (*Statistical Investigation into the Subject of Peasant Allotments and Payments*), St. Petersburg, 1877.

the possession of the peasants; but it was, in fact, mainly caused by the disproportion between the agricultural population and the means of subsistence available for it at the existing level of farming technique. That this disproportion was due to a variety of causes, of which the size of the allotments was only one, can be proved by comparing Russia with western Europe, where the peasants have less land, but where, owing to intensive farming and to the development of industry, one hears no complaints of the small size of peasant holdings. This view derives support from the fact that, in Russia, the depression in peasant farming proved to be particularly acute in the central agricultural provinces, as opposed to the industrial regions. Moreover the depression involved former State peasants, whose allotments were sufficiently large and their redemption payments relatively low. Finally, in the western provinces, although the allotments were smaller, there was no depression at all, because industry there was developing and the methods of cultivation both on landlords' estates and on peasant farms were gradually improving, principally owing to the spread of sugar-beet cultivation; while the forms of peasant landownership were different from those prevailing in central Russia.

The State Peasant Bank.

This depression in peasant farming and its connection with the insufficient area of land in the hands of the peasantry attracted the attention of the Government to the inadequacy of the peasant reform. Numerous committees appointed at various dates, from the eighties down to the "Special Committee on the needs of the Agricultural Industry" formed in 1902 under the chairmanship of the Minister of Finance, S. J. Witte, have dealt with this problem. On April 18, 1882,[2] the State Peasant Bank was founded, with the object of granting credits to peasants for the purchase of land. Its sphere of operations was extended in 1895, and it was permitted to purchase land on its own account. During the same period the conditions of emigration to the vast empty lands of Siberia were improved. These measures were calculated to assist the peasants whose holdings were too small, and remission of redemption payments helped to make good the other defects of the reforms. In 1881 these

[2] Dates throughout are according to the Russian calendar.

payments were considerably reduced. During the years 1883–1885 the poll-tax, a survival of primitive methods, was repealed; and improvements in the methods of tax collection enabled the Government to abolish the system of joint responsibility, by which the members of a village community were made jointly responsible for the regular payment of taxes to the State. That system was abolished in 1899 in villages where the land was not held in common, and in March, 1903, the measure was extended to villages where the communal system prevailed. This was an important step in the direction of releasing the individual peasant farmer from the bondage in which he was held by the village community.

All these measures, however, failed to solve the problem of rural overpopulation. The operations of the State Peasant Bank were at first on a relatively small scale; peasants, when buying land, were required to supplement the credit transaction by considerable cash payments, and these the poorest were unable to make; the rates of interest and repayment were higher than those charged by the State Nobility Bank and even exceeded those charged by private land mortgage banks. All this tended to delay the transfer of landlords' estates to the peasants through the Peasant Bank. During the first thirteen years of the Bank's activities, 1883 to 1895, it only effected the transfer of some 2,400,000 deciatines to peasants, whereas in the same period these purchased nearly three times as much land without its assistance. It was only the acute depression of peasant farming in the central provinces of Russia, and the failure of crops in 1891 and 1892 that compelled the Government to reorganize the Peasant Bank and to attach sufficient importance to the social and political problems confronting it. By 1894 the rates of interest charged by the Bank had been reduced. In the course of the next year the Bank was thoroughly reorganized: the terms of loan were extended and the advances increased, whilst the additional payments due by the peasants were diminished. The new Statutes of the Bank enabled it to purchase large estates on its own account, for resale to peasants; and a certain percentage of the sums collected in redemption payments by the State was allocated to the Bank to finance these purchases. In 1898 the charges of the Bank were again reduced. Owing to these reforms, the Bank began to extend its operations. During the ten years 1896–1905 peasants acquired 5,300,000 deciatines through its agency, more than double

the area of the preceding thirteen years. On the average, 530,000 deciatines passed into the hands of the peasants yearly during this period.

But owing to the general economic conditions prevailing in Russia and to her peculiar agrarian history neither the increased activity of the Peasant Bank, nor the independent purchase of land by the peasantry, was able to prevent the further decline of peasant farming; and complaints about the lack of land continued, due, as before, to the growth of the agricultural population and the stationary level of farming technique. The need was accordingly felt for a fresh reorganization of the Peasant Bank, to enable it still further to extend and develop its operations.

Emigration.[3]

At this period emigration was still too little organized to afford much relief to the situation. For twenty years after the emancipation, the Government was inclined to discourage emigration; partly because, as long as the system of joint responsibility remained in force, the departure of peasants from their villages threatened a reduction in the revenue from taxation, and partly from a fear that a scarcity of labor in the country districts would ensue. In spite of the attitude of the Government, however, emigration steadily increased, and was considerably accelerated by the depression in peasant farming. So long as the emigrants did not venture beyond the southeast of European Russia, the northern Caucasus, and Trans-Caucasia, their migration could proceed without external help. But in the eighties the stream of emigrants reached the Ural Mountains, beyond which lay the vast expanse of Siberia, where State assistance and organization were absolutely essential; and these the Government had so far failed to provide on an adequate scale.

The construction, in the early nineties, of the Great Siberian Railway, gave fresh impetus to emigration, for it rendered possible, and even imperative, the development and colonization of Siberia; while the rural overpopulation of Russia's European provinces at last compelled the Government to encourage and assist emigration. The Committee of the Siberian Railway was formed in 1893, on the model of the boards of American railway companies; on this Com-

[3] The term "emigration" is used here in a restricted sense, meaning the removal of population to the remote parts of the Russian Empire. (Editor.)

mittee, the management of colonization was entrusted to A. N. Kulomzin, a Secretary of State. During the twelve years of its existence, this committee did a great deal to further the work of colonization, spending over 30,000,000 rubles, chiefly on improved traveling facilities for emigrants and advances granted to enable them to start their new farms. By the law of December 7, 1896, promulgated on the initiative of M. Kulomzin, peasants were permitted to send *khodoki* or representatives, at reduced fares, to the proposed settlements to examine and select allotments. At the same time, the Emigration Department of the Ministry of the Interior, founded in 1896, was at work on the allocation of land to emigrants, and in the course of thirteen years (1893–1905) 11,500,000 deciatines were so allotted. These efforts naturally bore fruit in increased emigration to Siberia. The following figures, which include the *khodoki*, give an idea of this development:

EMIGRATION IN 1882–1905

Period	*Total number of emigrants for the period*	*Average number per year*
1882–1892	327,700	40,900
1893–1895	243,300	80,800
1896–1900	922,200	184,400
1901–1905	447,200	94,400

It will be seen that between 1901 and 1905 the number of emigrants decreased; the greatest decline occurred in the years of the Japanese war (1904, 46,700; 1905, 44,000).

Large as these figures may appear, emigration was still insufficient to relieve the rural overpopulation of European Russia. Moreover, the allocation of holdings, though greatly accelerated, failed to keep pace with the flow of emigration. Consequently there developed a stream of returning emigrants, who could not find suitable land and were therefore unable to settle in the new regions. Between 1896 and 1905, the proportion of emigrants returning reached 18 per cent of those going to Siberia. Pessimists even asserted that the reserve of land suitable for colonization was exhausted. It was evident that the problem of emigration required to be thoroughly reconsidered and the mode of dealing with it reorganized.

All these factors contributed to maintain a shortage in the supply of land available for the Russian peasantry. There was, however, another factor in the problem, arising from the defective methods of the peasant reform of 1861.

The Land Commune.

The fundamental error of the reform was the adoption at the time of the emancipation of the old forms of peasant land tenure and cultivation—legacies of serfdom and of the old Russian system of taxation. It was doubtless impossible, owing to lack of time and opportunity, to deal with the complex problems involved in the modification of these forms at the time of the emancipation, but this work should have been undertaken immediately on the completion of the peasant reform. This, unfortunately, was not done, and for nearly half a century neither the Government, economic literature, nor public opinion paid any attention to this most important problem of Russian national economy. Meanwhile, economic conditions were changing. An extensive system of railways was constructed and peasant farming became involved in commerce. The economics of the past, based on natural husbandry, were gradually merging in the money economics of a modern State; while the rapid increase in the rural population necessitated better cultivation of the soil. But intensive farming was seriously hampered by the obsolete forms of landownership and exploitation surviving in peasant farming; and the impossibility of adapting these forms to the requirements of technical progress was at the root of all the troubles mentioned above—the depression in peasant farming, rural overpopulation, and complaints of lack of land. The latter still continued, although in 1905 the average size of holdings had increased to 10.2 deciatines (27.5 acres) per farm, or including land privately owned by the peasants to 13 deciatines (35.1 acres).

The chief defect of the agrarian organization was the system of *mir*, or communal ownership of land under which the ownership of all the land, except building and garden allotments in the village, was vested in the commune, village community, and even, in some cases, in several villages in common. For actual cultivation the land was periodically distributed among the members of the commune, either on a basis of working power, reckoned by the number of adult men in the family, or according to consumption standards, based

on the aggregate membership of a household. These redistributions were devised to maintain equality in the holdings, which would otherwise be upset by the unequal growth of the various families. Redistributions of land were either partial, involving only a part of the land (escheat or allotments forfeited by their holders for arrears in taxes, etc.), or general, when the whole of the land belonging to a commune was redivided. Redistribution varied according to the classes of land: arable land was redistributed less frequently than meadows; grazing land was used in common without being divided at all; in some districts forests were held in common, and in others distributed among the members of the commune.

Before the emancipation, communal landownership prevailed throughout European Russia, with the exception of the Ukrainian provinces and the western region. The reform of 1861 legally consolidated the commune wherever it existed and in some cases introduced it where it was previously unknown. About four-fifths of the land received by the peasants on their emancipation was held in common; in 1877 out of a total of 25,000,000 peasants, 20,000,000 formed part of communes. That communal landownership was regarded at the time of the emancipation as a transitional form is proved by the fact that by paying before the term the whole amount due from him for redemption any member of a commune could become individual owner of his allotment; but such cases were extremely rare. Later, in the course of the eighties and early nineties, public opinion changed in favor of the communal system. While conservatives, influenced by the ideas of the "slavophiles," saw in communal landownership a check on the spread of proletarianism, and consequently of socialism, in Russia, the *narodniki*[4] were strongly in favor of the commune, hoping that this national form of primitive communism would enable Russia to avoid the capitalist stage, and thus effect a direct transition to socialism. The system, however, still had many opponents. They drew public attention to the fact that the commune hampers the progress of peasant farming, while far from checking the spread of socialism it encourages

[4] One branch of the Socialist party in Russia took its stand on the idea of the historical leaning of the broad masses of the Russian people toward socialism and rejected the view that the transition through the capitalistic stage is unavoidable. They assumed the name of *"narodniki"* from the word *"narod"* which means "people." (Editor.)

it by preventing the mass of the people from developing the sense of property. The struggle between these currents of opinion can be traced in the contradictions found in the legislation of the early nineties relating to the commune. Thus, while the law of June 8, 1893, attempts to mitigate the evil consequences of the frequent redistributions of land by limiting general redistributions to once in twelve years, a law dated December 14 of the same year stipulates that the redemption of allotments before the date fixed and their consequent separation from the commune can only take place with the consent of the latter. This law, which closed the last loophole by which a peasant could leave the commune, was passed at a time when the commune was already moribund, and when redistributions were becoming less and less frequent. According to K. Kachorovsky,[5] who collected, at the close of the nineteenth century, data relating to 87,000 communes with 25,000,000 inhabitants, one-half of the landlords' former serfs, who held their land in common, had abandoned the practice of periodic redistribution; while according to the information collected in 1904 by the Ministry of the Interior, about 50 per cent of the communes had had no general or even partial redistribution of land for over twenty-five years. From the official data, it appears that the communes which had had no general redistribution since the day of emancipation included 3,500,000 *dvor* or peasant farms—about one-third of all the farms in the communes. The dying commune, however, still held its members in bondage and the adverse influence on farming progress of the living communes, in which redistributions of land still continued, was even stronger.

The communal *régime* was in direct opposition to the essential conditions of modern farming, of which initiative in the farmer and security of tenure are the most important. The communal system also interfered with the rotation of crops, the basis of modern intensive farming. The rare cases of agricultural progress in communes—for instance the introduction of sown grasses in some communes in the province of Moscow and in certain neighboring provinces to the north of it—were due to exceptionally favorable conditions and stood out against a background of general stagnation as exceptions confirming the general rule. Technical progress is always due to the initiative of individual farmers and is only gradually ac-

[5] K. Kachorovsky, *Russkaya Obshchina* (*The Russian Commune*), 1900.

cepted by the majority. Now the chief fault of communal farming was that it afforded no scope to this initiative. In so far, therefore, as the commune succeeded in fulfilling its leveling function, it tended rather to create a class of landless peasant than to prevent the appearance of a village proletariat. But as a leveling agency it proved, on the whole, a failure. Within the commune there was a growing distinction between rich and poor; in the nineties, in many provinces of the black-soil area of central Russia, the number of horseless peasants exceeded one-third of the total number of farmers.[6] Moreover the communal system tended to encourage rural overpopulation: in the first place, the distribution of land according to the number in the household put a premium on large families; and secondly the automatic provision of land for the increasing population checked migration to the industrial towns.

Finally, it was proved by later events that the communal system not only failed to protect Russia from social upheaval, but by depriving her population of the steadying influence that a firmly established institution of private property would have afforded, it actually helped to bring about a social storm without precedent in the history of any country. It is impossible to read without a sense of their irony the words of the German author, Haxthausen, one of the first students and admirers of the Russian communal system: "The prophets of social revolution are up in arms against wealth and private property: the abolition of hereditary rights and the equal distribution of land are the watchwords of the revolutionaries. In Russia such a revolution is impossible, because there the utopian dreams of western revolutionaries have fully materialized."[7]

Ideas of this kind long hypnotized government circles in Russia. Only the acute depression of peasant farming in the districts in which the commune predominated, and the peasant revolts at the

[6] A very characteristic symptom of the decay of peasant farming is the reduction of the number of horses and the increase in the number of horseless households. A comparison of the figures of the horse statistics in 1888 and 1893–1894 proves that in thirty-one provinces the number of horses had fallen by 10.88 per cent. The number of horseless households had increased during the same period in twenty-three provinces of Central Russia from 21.56 per cent to 26.85 per cent. More than 25 per cent of the households had no horses at all; another 25 per cent had only one horse each.

[7] Haxthausen, *Studien über die inneren Zustände Russlands*, 1847.

beginning of the present century compelled the Government to abandon its idealized view of the communal system and to decide on its abolition.

Servitudes.

Communal landownership, however, was not the only factor hindering the development of Russian peasant farming. The system of peasant land tenure had other defects, found both in the communes and in villages that enjoyed a system of individual holdings, under which rights of property over definite strips of field and meadow were assigned to a peasant family in perpetuity.

Among other drawbacks we may mention the numerous "servitudes," to which the holdings were subject, for instance grazing rights and rights of way for vehicles and cattle. The common rights of grazing over fields and meadows were particularly harmful. Every member of the commune had the right to graze his cattle on the fallow and stubble of his neighbors; any change in the rotation of crops or the introduction of new ones was therefore impossible without the consent of the whole village. It is unnecessary to emphasize the difficulty of arriving at such an agreement in practice. This custom of grazing over arable land was a legacy of the old agrarian *régime*, but land had now become so valuable that its continuance had become indefensible; it could not even be said to provide better feed for the cattle, since the grazing on fallow and stubble is usually very poor.[8] The changed economic conditions had thus made grazing on arable land more injurious to those on whose fields it took place than profitable to the owners of the cattle grazed there; and since these grazing rights were enjoyed in common the loss was common to all. Equally harmful was the right of grazing in the meadows in the autumn and still worse in the spring. While autumn grazing often prevented the farmer from obtaining a second crop from the meadows, spring grazing usually reduced the future hay crop by about 10 or 20 per cent. In the case of meadows where the soil was damp, the harm that the cattle did to the grass roots was greater than the benefit they derived from the grazing. In practice, the advantages obtained from grazing on the meadows

[8] K. Rau, *Lehrbuch der Pol. Oek.*, Bd. II, 5; 1862, pp. 142–152; G. Kraft, *Lehrbuch der Landwirtschaft*, Bd. II, 7; 1903, pp. 210 and 279.

were insignificant.[9] Other rights, such as rights of way through fields, and rights of driving cattle, also caused much inconvenience.

Scattered Strips.

Yet another defect in the established system of peasant land tenure found both in the communes and in villages where the land was held in perpetuity by individual peasants was the division of holdings into scattered strips. In neither did the peasant hold his land in a single plot; his allotment consisted of a number of long narrow strips, mingled with those of other occupiers. The number of these strips frequently ran into scores and they were scattered in all directions, often far away from the farmhouse in the village. There was no independent access to each strip, which could only be reached when the whole village was working on those particular fields. In many cases, strips of peasants' and landlords' land alternated; this not only interfered with the landlords' farming, but also created difficulties for the peasants and compelled them to rent the encroaching portions of the landlord's estate on very unfavorable terms. The drawbacks of this division of holdings into scattered strips were: (1) Owing to the impossibility of obtaining free access to the strips, they had to be cultivated in the same way and at the same time as all those adjoining; this entailed a compulsory rotation of crops (*Flurzwang* the Germans call it), and prevented any individual farmer from adopting special methods of cultivation. (2) The strips were too narrow to allow of plowing across their width, or the use of machinery; in hilly districts longitudinal plowing led to the washing away of the fertile top layer of the soil. (3) Remote strips could not be manured. (4) Much time was lost in going and coming; and the more intensive the cultivation, the greater the hindrance. (5) Much land was wasted in boundary furrows, which were, moreover, hotbeds of weeds and other pests. (6) The scattered distribution and remoteness of the strips prevented their being effectually watched, which led to frequent encroachments in plowing, thefts from the fields, and damage by cattle; while the great number of boundaries was a fruitful source of quarrels. These drawbacks constituted a serious impediment to agricultural progress and pointed to the necessity of combining each peasant's strips

[9] A. D. Bilimovich, *K Voprosu ob Uprazdnenii Servitutov* (*On the Abolition of Servitudes*), Kiev, 1911, pp. 55–56.

in a single plot or a few plots and, wherever possible, of erecting farm buildings on the consolidated holding. This raised the important and extremely difficult problem of the consolidation of the scattered holdings of the millions of Russian peasants. Finally, another defect of the established system, both in the communes and in the villages with private ownership, was the existence of large common pastures, which were utilized in the most unprofitable way. Where much uncultivated land was available, the inconvenience of common pastures was not felt, and the keeping of a single shepherd was an economy for the village. But as land became scarcer, the drawbacks of the custom became apparent; it prevented the best use being made of the cultivated area, and made the introduction of scientific methods of cattle breeding impossible. A further problem, therefore, which had to be faced, was the distribution of some part, at least, of these common pastures.

Such were the principal defects of the established system of peasant land tenure. They were mainly responsible for the fact that the lack of land was more acutely felt by a section of the Russian peasantry than by the people of any other country in Europe. But it was not until the beginning of the twentieth century, after the serious defeats sustained in the Japanese war, the revolutionary movement of 1905 and the peasant revolts, that the Government inaugurated a series of important measures designed to alleviate this land hunger, and took decisive steps to deal with the anomalies of the existing system of peasant land tenure. These measures constituted the land settlement reforms of the decade immediately preceding the War.

CHAPTER II

THE LAND REFORM OF 1906–1913

Agrarian Conditions in 1905.

The defeat of Russia in the Crimean War of 1854–1855 hastened the emancipation of the serfs; similarly, the failures of the far-eastern campaign served to convince the Russian Government and people of the pressing need for extensive reforms in the economic organization of the country. The revolution of 1905–1906, in its turn, forced public opinion to contemplate the compulsory expropriation of private estates and of certain other lands in favor of the peasants. Finally the social and political importance of the agrarian disturbances which were spreading in the country compelled the Government to proceed at once with land settlement. These riots first occurred in the spring of 1902 in the Konstantinograd district of the province of Poltava and spread to the neighboring districts. In February, 1905, disturbances broke out in the adjoining districts of the provinces of Chernigov, Kursk, and Orel. The revolution of 1905, originating in the towns, gave a fresh impetus to this movement, which now spread rapidly in the country districts. The most serious riots occurred on the Middle Volga and in the central black-soil area, the region in which communal landownership was prevalent and the depression of peasant farming particularly acute. In the southern and southwestern provinces peasant unrest manifested itself chiefly in strikes among agricultural laborers; while in the provinces outside the black-soil area, where the landlords' estates consisted mainly of woodlands, it took the form of wilful damage to the forests.

General Plan of the Reform.

We have seen that the depression in peasant farming and the consequent agrarian unrest were due not only to the actual scarcity of land, but also to defective organization. The scheme of land settlement, therefore, comprised two distinct sets of measures: (1) measures calculated to increase the area of land at the disposal of the peasants, including the sale of private lands to peasants through the Peasant Bank; the sale of appanage and State-owned lands to

peasants; and, finally, assistance for peasants' emigration to the available State-owned lands in Siberia. (2) Land settlement in the proper sense of the term, involving the complete reorganization of the system of peasant ownership and farming, the abolition of communal land tenure, the partition of common lands, the abrogation of the servitudes to which peasant lands were subject, and the consolidation of scattered allotments. The Government found it necessary to establish special organizations to put these reforms into practice, and to furnish material and technical assistance to the new peasant farms formed under the scheme.

Reorganization of the State Peasant Bank.

Of the measures designed to increase the area of land in the hands of the peasants, the most important was the reorganization of the State Peasant Bank, in respect both of its activities as an intermediary, and of its independent purchases of land for resale to the peasants. By a law of November 3, 1905, the Bank was authorized when acting as an intermediary for landless or indigent peasants to advance the full value of the land to be purchased; while the law of November 15, 1906, enabled it to grant loans to the clients upon mortgage of their original allotments. Finally, in 1906, the rates of interest charged by the Bank on its advances were so far reduced that, the repayment of the loan being spread over fifty-five and a half years, the whole annual charge was only 4.5 per cent. Since the Bank itself was paying higher interest than this on its bonds, it was working at a loss; and between 1906 and 1916 it received nearly 140,000,000 rubles in subsidies from the State to make good the deficit.

The system under which the Bank purchased land on its own account for resale in smaller plots to peasants was even more drastically reorganized. To enable it to extend its activities in this direction, the law of November 3, 1905, empowered it to issue bonds to provide the necessary funds. It was thus able to take advantage of the exceptional opportunities for purchasing private estates that followed the agrarian disturbances.

As the result of these measures, vast areas of land passed into the possession of the peasants through the agency of the Peasant Bank. The most important reform, however, was the organization of the sale and purchase of land effected by coördinating the activities of

the Peasant Bank with those of the newly created land settlement committees, so that only estates suitable for peasant land settlement were purchased. The sale of land was also subordinated to the purposes of land settlement. Before the revolution of 1905, the Bank was prepared to finance the purchase of land by whole communes, as well as by peasants' associations. Individual purchases, then extremely rare, now became much more common, while the Bank became the agency for promoting the idea of enclosed individual holdings, and sought to encourage, by every possible means, the settlement of the peasants on their newly purchased land. For instance, when loans were granted for individual purchases by intending settlers, a 10 per cent discount was allowed on the supplementary cash payments. This new policy resulted in the creation of a great number of enclosed individual holdings with fixed boundaries, which not only extended the area of land in peasant hands, but also accomplished an important reform in the system of land tenure.

The difficult question of defining what persons were entitled to buy land through the Bank was solved by selling it only to such farmers as lived by working on their holdings. The peasants of the locality had a prior claim to any land offered for sale, and land was only sold to peasants from other districts when there were no local purchasers; moreover, individual purchases of land were everywhere limited to a fixed maximum area. These measures enabled the Peasant Bank to bring into being numerous farms, which, while adequately provided with land, were yet genuine peasant holdings.

Between 1908 and 1912 individual purchasers, who originally owned, on an average, about 3.4 deciatines, increased their holdings by 12.9 deciatines per farm. Even writers by no means biased in favor of the Bank (A. A. Kaufman, N. P. Oganovsky, B. D. Brutzkus) agree that it did exactly what the circumstances required, by transforming poor peasant farms, with insufficient land, into self-sufficient and practical small holdings.

Although the loans granted by the Bank and its appearance on the land market as a purchaser tended, no doubt, to some extent, to raise the price of land, it should be borne in mind that without its assistance the peasants would either have been unable to purchase land at all or would have had to pay still higher prices. The fact that all investigators agree that farmers who had acquired

land through the Bank were surprisingly punctual in their payments is the best proof that the terms of these transactions were not onerous.

Whatever may have been the faults of the reorganized Peasant Bank, it is an indisputable fact that between 1906 and January 1, 1914, it succeeded in transferring to the peasants over 8,500,000 deciatines, or, on the average, over 1,000,000 deciatines per annum, while during the whole period of its existence the aggregate area transferred through its agency reached the enormous figure of 16,700,000 deciatines. The value of this land was estimated at 1,763,000 gold rubles, and loans granted on it amounted to 1,421,300,000 rubles, while the additional cash payments of the peasants did not exceed the sum of 342,600,000 rubles. These figures show the Russian Peasant Bank to have been unique among the land banks both in respect of the area of land transferred and of the amount of its advances. The following table of the area of land acquired by the peasants during various periods indicates the extent to which the transfer was accelerated by the operations of the Bank after its reorganization.

AREA PURCHASED BY THE PEASANTS FROM THE STATE PEASANT BANK IN 1883–1913

Period	*Total area sold* (*in deciatines*)	*Average per annum*
1883–1895	2,410,900	185,500
1896–1905	5,864,400	586,400
1906–1913	8,460,400	1,057,500

Particularly large purchases, aggregating 4,716,000 deciatines were made by the Bank in the years 1906–1908, when the sales of private estates greatly increased.

The largest purchases of land by the peasants took place between 1908 and 1911, but purchases remained at a high level up to the outbreak of the War. The annual fluctuations are indicated below:

AREA PURCHASED BY THE PEASANTS FROM THE STATE PEASANT BANK IN 1906–1913

Year	*Area in deciatines*	*Year*	*Area in deciatines*
1906	522,800,000	1910	1,549,700
1907	932,800,000	1911	1,397,600
1908	1,019,000,000	1912	917,300
1909	1,227,100,000	1913	894,100

This table shows how rapid were the disintegration of private estates and the transfer of land to the peasants through the Peasant Bank. Moreover, the legislative measures of 1906 also provided for the transfer to peasants whose allotments were inadequate of part of the appanage and State lands in European Russia. By the Ukase of August 12, 1906, 1,200,000 deciatines of appanage lands,[1] mainly in the southeastern provinces, were handed over to the Bank for resale to the peasants. These lands were ceded to the Bank at a very low price, so that the profits derived by it from their sale served to cover part of the deficit incurred on its other operations. The State lands were to be handed over in compliance with the Ukase of August 27, 1906. Of these lands 700,000 deciatines were sold, but the greater part of the area suitable for cultivation was leased to peasants by private treaty on exceptionally favorable terms. In 1907–1911 the area thus leased amounted to 4,500,000 deciatines. At the same time the outstanding balance of the peasants' redemption payments was canceled. The law of November 3, 1905, had reduced redemption payments by one-half as from January 1, 1906, and on January 1, 1907, they were finally canceled. This measure not only released the peasants from an annual charge of nearly 100,000,000 rubles, but also removed all fiscal obstacles to the dissolution of the commune.

Emigration.

The last reform undertaken before the War with the object of providing more land for the peasants was the development and reorganization of peasant emigration to the unpopulated lands of Asiatic Russia. Even before the revolution of 1905, the Government had promulgated the law of June 6, 1904, which allowed greater freedom of emigration to the peasantry. This law was supplemented by that of March 10, 1906; and moreover the newly created local land settlement organizations were called upon to assist the emigrants on arrival at their settlements. The Ukase of November 15, 1906, empowered the Peasant Bank to grant loans to the settlers on mortgage of their former holdings, while the winding up

[1] Russian law made a distinction between State domains, domains of the Imperial Family (appanages), and private domains of the Emperor ("cabinet" estates).

of the communal system enabled the peasants to sell their original allotments, and so obtain the necessary means of settling on their new holdings. At the same time the work of the Emigration Department in allocating new holdings and assisting the settlement of colonists in Siberia was enlarged. Prior to 1906, the emigrants were settled on State lands or on what were considered to be surplus lands of the nomadic Kirghiz[2] tribes; but, in 1906, 30,000,000 deciatines of vacant land in the Altai district, belonging to the "cabinet"[3] of the Emperor, were made available for settlement; and in 1908 the "cabinet" lands of the Nerchinsk district and other estates were applied to the same purpose.

The budget grants for the survey of land and the settlement of new colonists were gradually increased. In 1903 the estimates of the Emigration Department amounted to 3,100,000 rubles, in 1908 to 19,200,000 rubles, and in 1914 to 30,200,000 rubles. In the course of five years 1906–1910 nearly 22,000,000 deciatines were prepared for settlement, double the area prepared during the preceding thirteen years; while during the same period 30,000,000 deciatines of unoccupied land were actually allotted to settlers. On these lands eight thousand miles of road were constructed, over three hundred stores for agricultural and household implements were opened, medical assistance was organized, and irrigation work undertaken. In the years immediately preceding the War, from 150,000,000 to 200,000,000 puds of grain were put on the market yearly by the Siberian settlers, while 5,000,000 puds of butter a year were exported.

The progress of emigration during the period between the revolution of 1905 and the outbreak of the War is seen from the following table of the number of settlers and *khodoki*[4] or pioneers:

[2] *Kirghiz*—a large and widespread division of the Turkish family, of which there are two main branches, the Kara-Kirghiz of the uplands and the Kirghiz-Kazaks of the steppe. They jointly number about 3,000,000 and occupy an area of perhaps the same number of square miles, stretching from Kulja westward to the lower Volga, and from the headstreams of the Ob southward to the Pamir and the Turkoman country.

[3] See p. 322, n. 1.

[4] For explanation of the term *"khodoki,"* see above, page 310.

EMIGRATION TO SIBERIA IN 1906–1913

	Settlers	*"Khodoki" (pioneers)*	*Total*
1906	139,100	77,600	216,700
1907	427,300	149,700	577,000
1908	664,800	94,000	758,800
1909	619,300	88,200	707,500
1910	316,200	36,800	353,000
1911	189,800	36,300	226,100
1912	201,500	58,100	259,600
1913	234,800	93,100	327,900

These figures show that in the course of these eight years nearly 3,000,000 peasant farmers, besides the *khodoki*, emigrated. The tide of emigration reached its height in 1908–1909, when a decline set in. Nevertheless, every year down to the outbreak of the War, over 200,000 settlers crossed the Urals, representing a stupendous work of internal colonization. At the same time, the improvement in organization reduced the proportion of emigrants who returned, in this period, to 12 per cent. In 1911, 64,000 emigrants returned; in 1912, 34,000; and in 1913 only 23,000.

The Land Reform of 1906.

As the result of this immense work of land settlement carried out between 1905 and the outbreak of the War, land in Russia had largely changed hands, causing a considerable alteration in the social structure of the country. The work of reforming the system of land tenure was carried out with even greater energy, and produced changes even more fundamental in the country's social and economic life. The impossibility of retaining the obsolete forms of peasant landownership and the primitive system of agriculture was generally recognized before the revolution of 1905, and was clearly expressed in the conclusions of the "Special Committee on the needs of the Agricultural Industry," by its president, Count Witte: "The progress of farming is closely dependent on such an improvement in the legal status of our peasantry as will promote the development of individual enterprise and initiative." Speaking of communal landownership, he said: "Woe to the country whose people have never learnt to respect the principles of legality and the rights of property; and where the system of collective ownership prevails, regulated by obscure custom or by arbitrary judg-

ment. Such a country may become, sooner or later, the scene of unparalleled calamities."[5] When this Committee was dissolved, and replaced by another on March 30, 1905, the Imperial Rescript addressed to the Chairman, I. L. Goremykin, emphasized the urgent necessity of "evolving measures enabling the peasants to exploit their allotments to the utmost advantage"; and suggested, as a first step, "the appropriation to individual peasants of the allotments held by them in the communes."[6] Here we see the idea of a reorganization of land tenure gradually maturing in official minds. The revolution of 1905 and the agrarian unrest compelled the Government to expedite the practical execution of these principles, and the land settlement reform was carried out by P. A. Stolypin, who succeeded Goremykin as Prime Minister.

Right of Peasants to Leave the Commune.

The most decisive act of the land settlement reform was the promulgation of the Ukase of November 9, 1906, relating to the appropriation by the peasants of their allotments in the communes. In virtue of this enactment, every holder of an allotment in a commune was entitled to claim his holding as his individual private property (article 1), and allotments thus appropriated became the absolute property of their holders. In villages where allotments were held by the peasants in perpetuity, they were transferred to their actual holders as individual private property (article 3). Thus were removed the infinite legal complications of the system of family ownership hitherto in force.[7] To safeguard the peasants against

[5] D. B. Brutzkus, *Agrarni Volpros i Agrarnaya Politika* (*The Agrarian Problem and Agrarian Policy*), Petrograd, 1922, pp. 85–86.

[6] *Zemleustroistvo, 1907–1910* (*Land Settlement, 1907–1910*), St. Petersburg, 1911.

[7] Down to 1905 the junior members of the joint family even when of age were absolutely dependent on the head of the family. For instance, they could not leave the district without the permit of the elder. The distribution of work at home, as well as the disposal of the farm and the land, depended upon the house-elder, but junior married members were entitled to claim a portion of the holding before the village assembly. The Supreme Law Court of the Senate between 1861 and 1906 made attempts to interpret the conception of the joint family as that of a *juridical person*, but did not succeed in establishing a clear distinction between the rights of the house-elder as a private individual and his rights as the executive of the joint family. The confusion was made still worse by the fact that the joint

the loss of their holdings, now their private property, and to avoid the excessive buying up and concentration of land, the Ukase restricted the sale of allotments to genuine peasants and limited the number of allotments purchasable by any one individual to six. Individual appropriation applied to arable land and, in some cases, to meadows; but pastures and other lands not subject to redistribution remained common property, with the proviso that peasants who separated from the commune retained their rights over these common lands, unaffected by future redistributions (articles 4–5).

The Ukase of November 9, 1906,[8] promulgated as an extraordinary measure while the repression of the revolutionary outbreak was still in progress, provoked severe criticism from both opponents and supporters of the communal system. Yet, in spite of its radicalism, this was only the logical complement of the legislation of 1861, which preserved communal landownership merely as a temporary institution in order to guarantee the collection by the State of the peasants' redemption payments. With regard to the criticism that the Ukase favored peasants separating from the commune at the expense of those remaining in it, it will be seen at a later stage that not merely a small group of well-to-do peasants, but the great mass of average peasant farmers with small allotments took advantage of its provisions. The great number of peasants who separated from the communes proves that the Ukase of November, 1906, met needs already ripe in the commune itself, needs that tended, in any case, to its ultimate dissolution.

If the reform of 1861 liberated the peasants from serfdom to landlords, the land settlement reforms of 1906 completed their

family was assumed to exist only with regard to such real property as had been allotted on the basis of public law, as the allotment (*nadel*) created by the land act, and not with regard to lands otherwise acquired. This confusion induced the Government to take a short cut and to recognize the house-elder as an absolute owner, depriving the junior members of their claims without any indemnity. (Editorial).

[8] The Ukase of November 9, 1906, was published under the provision of Article 87 of the Fundamental Laws, which empowered the Emperor to issue Imperial Ukases or orders when the Legislative Bodies were not sitting, but these orders had to be submitted to their approval within two months after the beginning of the next session. In using the constitutional prerogative of the Crown for the carrying into effect the new land settlement regulations, the Government intended to weaken the opposition of the Legislative Bodies by confronting them with a *fait accompli.*

emancipation by releasing them from their bondage to the commune. For the first time in the lives of the millions of Russian peasants, the way was cleared for personal initiative; they were roused from their lethargic acceptance of existing conditions and given the opportunity of normal economic development.

The Ukase of November 9, 1906, was approved by the third State Duma and adopted as the law on June 14, 1910. The Duma went even further than the Ukase of November, 1906, in recognizing that all communes, in which no redistribution had taken place since the original allocation of land, had automatically become hereditary holdings, no longer subject to redistribution (article 1). As a result of this enactment communal landownership ceased to exist in nearly one-third of the communes. The Land Settlement Act of May 29, 1911, carried the abolition of the communal system a step further by conferring on peasants who seceded from the commune the right of claiming, whenever practicable, the enclosure of a proportionate share of the common lands of the village in addition to their arable allotments (article 39). The appropriation by private owners of part of the communal pastures and forests thus became possible.

The Land Settlement Act in dealing with the general question of the partition of common lands, both in communes and in villages with perpetual holdings, further decreed that such lands (pastures and grazing lands) might be divided among individual holders in the case of a wholesale distribution of the village allotments and the complete breaking up of the commune (article 45); and also provided for the partition among two or more villages of the lands hitherto used by them in common (article 26). The partition of the allotment land belonging to a part of a large village or to a separate settlement was also permitted (articles 29, 31, 32); this chiefly affected the enormous villages of the southern and southeastern provinces, which frequently included over a thousand homesteads. Finally, the Land Settlement Act rendered possible the partition of lands hitherto used in common by peasants and landlords if claimed by either party (article 54).

Abolition of Servitudes.

The land settlement reform included the abolition of the servitudes to which peasants' allotments were subject. For instance, all

appropriated allotment lands were released from the compulsory rotation of crops and from communal cattle grazing, and future agreements establishing servitudes were forbidden (article 5). The abolition of servitudes in force between peasants and landlords in the southwestern and northwestern provinces was deferred until a special law should be passed to that effect (article 54). The draft bill of this law was laid before the Duma by the Government, but owing to lack of time it could not be passed before war broke out.

Consolidation of Scattered Holdings.

The last measure of the reform was the consolidation of scattered holdings in the villages. These consolidations were either "internal" or "external." The first term was applied to redistributions of holdings within the area of the allotment lands of a given village; the second to cases where peasant allotments were interspersed among landlords' lands, or among the lands of adjoining villages. "Internal" consolidations took the form either of "individual" or of "group" redistributions. The former consolidated the holdings of individual peasants; the latter those of whole groups of peasant farms, for instance those of one village in a confederation of villages, or that of a separate part of a single large village. The law provided that individual redistributions might be either partial, involving the separation from the commune of the allotments of certain individuals, or complete, involving the simultaneous consolidation of the allotments of a whole village. Finally, according to the degree in which they brought about the centralization of holdings, individual consolidations might assume the following forms:

(1) *The delimitation of boundaries and the making of roads.* In this case the holding remained in scattered strips as before, but the boundaries were fixed and a road made to each of the strips (the south-German *Flurbereinigung*). This was the least satisfactory form of rearrangement, but even this rendered possible the abolition of communal grazing and of compulsory rotation of crops. In densely populated countries with an ancient civilization, where land is dear and holdings small, this form of delimitation is often adopted; but in Russia, with her loosely knit economic organization, more radical methods were generally preferred.

(2) *Partial consolidation.* This system reduced the number of strips while still leaving the holding divided into several plots. For

instance, twenty or thirty separate strips might be combined into four or five plots, to each of which a field-road was marked out. This form of consolidation (the *Nassau Konsolidation* of Central Germany) is often the only one practicable where the soil varies widely in quality and the holdings are very much divided. The vast plains of Russia usually permitted the combination of all the separate plots into a single compact holding—a much more satisfactory arrangement, but even in Russia there were districts where partial consolidation proved to be the only practical expedient.

(3) *"Otrub" or consolidation of all the separate strips into a single holding.* All strips of land belonging to a farmer, with the exception of the plot in the village on which his farmhouse stood, were combined into a single plot of regular shape, and roads were made to each holding. This thoroughgoing system of consolidation (the *Zusammenlegung der Grundstücke* or *Verkoppelung* typical of Prussia) was not always practicable; it was therefore more usual for each holding to consist of two separate plots, one composed of arable land and the other of meadows. Where woodlands were not used by the whole village in common, they also formed separate plots.

(4) *"Khutor" or settlement on self-contained enclosed holdings* (the equivalent of the German *Vereinödung, Abbau,* or *Einzelhofsystem*). This system differed from the *otrub* in that it involved the transfer of the peasant's cottage and farm buildings from the village to the holding. In a *khutor* the whole of the land belonging to a peasant farmer was combined, as far as practicable, in a single plot, and the farmhouse was built upon it. The village was thus broken up into a number of separate farms or into several small settlements, each consisting of from two to four farmhouses. This is the type of numerous settlements in Germany, Belgium, Holland, Sweden, and Denmark; and the same system was adopted in the colonization of many parts of the United States, Canada, and the Argentine.[9] It characterized the settlements of German, Mazurian, and Czech colonists in western Russia, of the Letts and Esthonians in the Baltic provinces, and some of the Lithuanian settlements in

[9] A. Y. Voeikov, *Raspredelenie Naselenya Zemli v Zavisimosti ot Prirodnikh Uslovi i Deyatelnosti Cheloveka* (*The Distribution of the Globe as Determined by Natural Conditions and the Activities of Man*), St. Petersburg, 1906.

the northwestern provinces. This form of land settlement is the most satisfactory as regards the technique of cultivation and the organization of farming;[10] and peasant farming has consequently attained a very high standard in countries where agriculture has developed along these lines. In many districts, however, this form of redistribution is undesirable or even impossible for one or more of the following reasons: (a) Natural conditions may be adverse; for instance there may be a scarcity of water, as in the south and southeast of European Russia, where the population is compelled to settle near the sources of water supply—hence the prevalence of very large villages in those provinces. (b) There may be a lack of the necessary security for life and property, making life in lonely farms dangerous. (c) Economic considerations may be unfavorable, such as the value of the old buildings, the difficulty of transferring them, or the small size of the holdings, which may preclude the formation of enclosed farms (as a rule, the necessary area varies from seven to fifteen deciatines), or again, the commercial character of the village, or its situation on some trade route. (d) Various personal reasons, such as a sentimental attachment to the old homestead. It should be added that life in isolated farms was, in many districts, contrary to the deeply rooted habits of the population. For these reasons, legislation should leave the people free to choose the form of land settlement most convenient to themselves, and avoid all compulsion in that respect. This policy has not always been adopted in Russia, although the Land Settlement Act explicitly provided that the farmhouse might only be transferred with the consent of the householder.

The Ukase of November 9, mentioned above, laid down certain rules, designed to encourage the redistribution of allotments. It was enacted that every peasant seeking separation from the commune was entitled to claim that his holding should be allotted to him, as far as practicable, in a single plot. If a general redistribution was in progress, the commune was bound to accede to this request; if

[10] S. S. Bekhteev, *Khozyaistvennie Itogi Istekshavo Sorokapyatiletya i Meri k Khozyaistvennomu Podemu* (*Economic Achievements of the Last Forty-Five Years and the Measures for the Development of the Country*), Vol. II, 1906, pp. 170–172; also A. D. Bilimovich, *Zemleustroitelnya Zadachi i Zemleustroitelnoe Zakonodatelstvo Rossii* (*Problems of Land Settlement and Russian Legislation*), Kiev, 1907, pp. 163–164.

not, or if the allocation of a separate plot was impossible, the commune could offer the seceding member the value of his allotment in cash (articles 12–14).

Besides these partial consolidations, the Ukase also permitted the redistribution of all the land, both in communal villages and in those where allotments were held in perpetuity, if this was desired by at least two-thirds of the whole community (section IV). Consolidation of land in villages with perpetual allotments had not previously been permitted without the unanimous vote of the village. This measure was justified by the fact that many villages in the western provinces had undertaken consolidations on their own initiative as early as 1906. Instances were recorded in more than ten districts, embracing over 2,500 villages and resulting in the creation of over 20,000 enclosed holdings of the *khutor* type. The peasants of the western provinces copied this form of consolidation from the German and Czech colonists.[11] The law passed by the Duma on June 14, 1910, mainly recapitulated the provisions of the original Ukase, with the added proviso that where fifty heads of households, in a village comprising 250 or more households (or one-fifth of the total number in smaller villages) demanded it, the commune was bound to effect the consolidation of the holdings into single plots.

This law also reduced the two-thirds majority necessary to enforce the complete consolidation of the land in villages with perpetual holdings to a simple majority.

The Land Settlement Act of 1911.

All regulations on this subject were codified in the Land Settlement Act, published on May 29, 1911. This Act provides that consolidations can only be carried out at the request of one at least of the parties concerned, and can only be effected against the will of one of the parties in the cases explicitly provided for (article 6). Certain classes of land possessing special value (building plots, gardens, vineyards, land occupied by works, factories, flour mills, etc.) are not subject to consolidation without the consent of their

[11] The beginning of this movement in the province of Volhynia was first described by the present author in his article, *Vikhod na Voloki* (*Enclosed Holdings*), in *Zemledelye* (*Journal of Agriculture*), Kiev, 1896; also A. A. Koefoed, *Krestyanskie Khutora na Nadelnoi Zemle* (*Enclosed Holdings on Allotment Land*), Vols. I and II, St. Petersburg, 1905.

holders (article 7). Wherever consolidation is effected, each farmer must receive an area of land equal to his former holding, and compensation in quality for a reduction in area is only permitted in exceptional cases (article 8). The Act then proceeds to determine the conditions of the various forms of consolidation, including group apportionments: where a commune consisted of several villages, one village was empowered to claim the separation of its land by a simple majority vote of its members (article 23). The enclosure of the land held by one part of a large village might be demanded by one-fifth of the total number of heads of households or by fifty in a village comprising 250 or more households (article 29).

By a simple majority those wishing to separate from the commune were entitled to claim their share of arable and other land, divided into individual holdings of the *otrub* type (articles 31–32). In case of a partial or complete individual consolidation, the Act reiterated the provisions of the law of June 14, 1910 (articles 35–37 and 42). Finally, "external" consolidations were permitted wherever claimed by one of the parties concerned; but where the consolidation of scattered strips applied to remote portions of land, it must be agreed to by more than one-half of the heads of households, and the latter must possess more than one-half of the area in question (articles 49–50).

The chief defect of these regulations lies in the varying majorities and minorities entitled to claim apportionments. Moreover, the regulations concerning the unification of the allotments of peasants separating from the commune are somewhat drastic, as are those which prescribe either settlement on enclosed individual holdings (*khutor*), or at least, the consolidation of allotments into holdings of the *otrub* type. The extreme character of the reforms tended to strengthen the opposition offered to land settlement by those who were adverse to it on other grounds.

The Administration.

Special executive organizations were set up to carry out the land settlement reforms, and the method of procedure was carefully worked out. The Ukase of May 6, 1905, transformed the Ministry of Agriculture into the Central Board of Land Settlement and Agriculture, thereby emphasizing the fact that its principal work in future was to be land settlement. The same Ukase constituted the

Land Committee, which, in the following year, was converted into an interdepartmental central organization, the Land Settlement Committee. The provincial and district land settlement committees were constituted by the same Ukase. The original composition of these committees was amended by the Land Settlement Act (article 64, appendix 1), which provided that provincial committees should consist of six appointed and four elected members, of whom one must be a peasant. The difficulty of securing a full attendance was met by making four a quorum, these four to be the governor of the province, the permanent member of the committee, the representative of the district court, and one representative of the zemstvo.[12] District committees consisted of three appointed and nine elected members, of whom three were to be peasants elected by *volost*[13] assemblies and one a peasant delegated by the *volost* immediately concerned in the case under discussion. The quorum for a district commission was reduced to three: the permanent member, the member of the district court, and either a zemstvo or a peasant delegate.

The permanent members were the mainspring of the committees' activities. At first the scarcity of men with adequate training for that office made itself felt chiefly in the district committees, although the Government used every effort to find suitable candidates; more than half of those appointed were university men. No less important was the task of the land surveyors, on whom devolved the actual field work of land settlement. The steady increase in the number of surveyors engaged on land settlement can be seen from the following figures: in 1906 they numbered about 200; in 1907, 650; 1,300 in 1908; 3,300 in 1909; 5,120 in 1910; 5,450 in 1911; 5,987 in 1912; on the eve of the War, their number reached 6,957 including assistant surveyors. It should be added that responsible posts were filled only by men with special university or secondary school training. New schools were opened and special courses in land surveying were introduced. But in spite of these measures the number of surveyors, though previously unheard of in Russia, proved insufficient to cope with the ever increasing demands of the peasants for land settlement.

Land settlement work was performed at State expense and free of charge to the peasants. The average cost to the Treasury was

[12] Institutions of local government.

[13] Rural administrative unit comprising several villages.

about 4.07 rubles per deciatine in the case of individual, and about 1.55 rubles in the case of group consolidations. The peasants were required to provide transport and living accommodation for the surveyors, and to help in the actual field work. Expressed in terms of money, the cost to the population varied from 20 to 50 copecks per deciatine. The land settlement estimates for 1908 amounted to 9,600,000 rubles, while those for 1914 reached 25,500,000 rubles.

The first land settlement committee was constituted in the autumn of 1906, and immediately set to work. At the beginning of 1911, 431 district committees were at work in forty-six provinces. Their aggregate membership was about 5,800, of whom about 3,300 were elected members. At first, while the revolutionary feeling was still strong, the population regarded these institutions with some distrust, but their work gradually gained the confidence and awakened the interest of the peasants. In order to familiarize the peasants with the principles of land settlement the Government instructed the Peasant Bank to sell its land in regularly enclosed holdings; and land settlement thus inaugurated spread to peasant allotment lands, and very soon assumed huge proportions. The progress of the various forms of land settlement is described in the following pages.

Individual Appropriation of Allotments in the Communes.

The number of peasants who applied for the appropriation of their allotments in the commune and the number of appropriations effected, from the beginning of land settlement down to the outbreak of the War, were as follows:

INDIVIDUAL APPROPRIATION OF ALLOTMENTS IN THE COMMUNES

Years	*Number of applications made*	*Number of appropriations effected*	*Percentages effected*
1907	205,100	53,000	25.8
1908	840,100	508,300	60.5
1909	649,900	579,400	89.1
1910	348,300	341,400	98.0
1911	242,300	145,600	60.1
1912	152,400	122,300	80.2
1913	160,300	134,600	84.0
Total	2,598,400	1,884,600	72.5

These figures show that secession from the commune at once became a popular movement so widespread that the land settlement commissions were unable to deal with the flood of applications. Appropriations of allotments were effected in favor of 1,900,000 peasant farmers, or nearly one-fifth of the whole number of farms in the communes, involving an area of over 13,000,000 deciatines, or about 13 per cent of all the land in communal tenure.

In addition, 3,500,000 peasant farmers, occupying a total of about 31,000,000 deciatines, became individual owners of their allotments in virtue of the law of June 14, 1910. Some of these, however, did not secure a legal title to their allotments. Certificates of appropriation, that is title deeds for this purpose, were issued to the following number of holders: 8,200 in 1910 (second half), 167,200 in 1911, 112,700 in 1912, and 97,800 in 1913; or a total of 385,900 for the period. No less than 2,500,000 deciatines were thus formally appropriated.

The greatest number of appropriations, under the Ukase of November 9, 1906, took place in 1908 and 1909, after which there was a decline, attributable to the following reasons: (1) peasants who had long wished to separate from their communes had availed themselves of the first opportunity of doing so, and (2) the law of June 14, 1910, rendered special application for the appropriation of allotments unnecessary in the case of all communes where the practice of periodical redistribution was in abeyance. Some light is thrown on the class of peasants who separated from the commune by the fact that the average allotment appropriated was smaller than the average holding in the communes. The latter was approximately 10 deciatines, while the former varied from 7 and 7.8 deciatines in 1907–1909 and from 6.5 to 6.8 deciatines in 1910–1913. More detailed information shows that the peasants most anxious to leave the commune either feared a reduction in their holdings as a result of future redistributions, or wished to dispose of their holdings in the particular commune, or intended to give up farming altogether. These included settlers bound for Siberia, peasants who had purchased land in some other locality, town workmen who were appropriating their allotments with the intention of selling them at once, and lastly weaklings of all kinds, whose farming was in decay and who also felt inclined to dispose of their land, as for instance invalids and drunkards. By enabling these inefficient elements to

appropriate their holdings, the Ukase of November 9, 1906, and the law of June 14, 1910, undoubtedly encouraged the conversion of certain groups of the peasantry into a proletariate; but it may be argued that they only hastened the winding up of farms below the average standard, which were in any event doomed to disappear sooner or later.

In order to form a correct idea of this process, it is important to note the degree of frequency with which appropriated allotments were sold and into whose hands they passed. According to official data—possibly incomplete—581,000 peasant holders sold 2,273,900 deciatines of appropriated allotments between 1907 and December 31, 1912. These figures represent about one-fourth of the total number of peasants who had appropriated their holdings, and about one-fifth of the total area of their land. The land changed hands at an increasingly rapid rate: in 1907, 26,100 deciatines; in 1909, 373,000 deciatines; in 1911, 533,900 deciatines; and in 1913, 734,600 deciatines were sold. The average size of the allotments sold, 3.9 deciatines, was only half that of appropriated holdings, which bears out the view expressed above, that land was sold mainly by those who were unable to farm it properly. The absence of any dangerous concentration of peasant lands in the hands of a few is recognized even by the severest critics of the reforms[14] and is established by the fact that the number of purchasers of appropriated lands between 1907 and the end of 1912 reached the very high figure of 554,500, or 95.6 per cent of the number of sellers. A certain concentration of land in the hands of purchasers could be traced in the eastern provinces, but there the average size of peasant holdings was generally larger than elsewhere.

A study of the geographical distribution of secession from the commune shows that it assumed particularly large proportions in the west, the south, and the southeast of European Russia—in those districts, that is to say, where the commune had lost much of its vitality—and was least frequent in the north and the northeast.

Consolidation of Scattered Holdings.

Concurrently with the measures for facilitating individual appropriations, the Government devoted ever increasing attention to

[14] N. Oganovsky, *Zemleustroistvo* (*Land Settlement*), in the *New Russian Encyclopaedia,* Brockhaus and Efron, Vol. XVIII, p. 563.

the second great problem of land settlement—*the consolidation of scattered holdings.*

The total number of applications for the consolidation of scattered holdings received and the amount of work actually done from 1907 to the end of 1913 can be seen from the following table:

CONSOLIDATION OF SCATTERED HOLDINGS IN 1907–1913

Stage of work	*Number of farms*	*Area in deciatines*
Applications received	4,965,400	.....
Projects prepared	2,862,100	25,727,800
Surveys carried out	2,040,600	17,944,600
Consolidations completed	1,494,000	12,925,300

It will be seen that in the seven years preceding the War, applications for the consolidation of allotments were received from nearly 5,000,000 peasants[15] or 36.7 per cent of the total number of holders of peasant farms; but the work was only completed in about 1,500,000 cases or 30 per cent of the applications received. These figures show how impossible it was for the land settlement committees to cope with the demands made upon them, and refute the charge frequently made that the Government forced land settlement on an unwilling peasantry. Although the Government certainly made great efforts to encourage consolidation in its early stages, during the later years it was quite unable to cope with the work imposed by the flood of applications received from the peasants. Plans were made for the consolidation of over 25,000,000 deciatines, and the work was completed on 13,000,000 deciatines, or more than 10 per cent of the whole area of allotment land. The progress of the two distinct forms, "individual" and "group" consolidation, can be seen from the figures given below.

[15] Exclusive of 58,000 small holders who were not peasants and 8,800 other landowners.

INDIVIDUAL CONSOLIDATIONS COMPLETED IN 1907–1913

Year	*Number of farms*	*Area in deciatines*
1907	8,200	88,900
1908	42,100	436,500
1909	118,500	1,222,400
1910	150,300	1,459,400
1911	204,300	2,050,900
1912	127,700	1,246,600
1913	193,000	1,807,200
Total	844,100	8,311,900

In addition to these, numerous enclosed holdings of the *khutor* and *otrub* types were formed between 1907 and June, 1913, on lands purchased through the Peasant Bank:

ENCLOSED HOLDINGS ON LAND PURCHASED FROM THE STATE PEASANT BANK IN 1907–1913

Year	*Number of farms*	*Area in deciatines*
1907	1,800	24,900
1908	14,100	152,300
1909	45,500	502,600
1910	64,400	864,700
1911	60,700	851,200
1912	40,200	508,100
1913	21,000	263,200
Total	247,700	3,167,000

These figures fail to give a complete idea of the situation, since they do not include the large area of State-owned lands sold to the peasants since 1907, of which, during the later years, about 95 per cent were sold in the form of enclosed holdings. Between 1907 and the end of 1911, 329,000 deciatines, of which 305,000 deciatines were divided into *khutor* and *otrub* holdings, were sold to 57,300 peasant farmers.

To sum up the results achieved by land settlement before the War, over a million enclosed holdings (*khutor* and *otrub*) were formed, involving an area of over 12,000,000 deciatines. These figures represented over 8 per cent of the total number of peasant farms and over 6.5 per cent of the total area of allotment land.

From the point of view of geographical distribution, the forma-

tion of enclosed holdings made most progress in the south and southeast, where the peasants owned comparatively large arable farms, and in the west and northwest in the neighborhood of districts where enclosed holdings had long been in existence and where the introduction of grass sowing in the rotation of crops was traditional. In the central, northern, and northeastern provinces individual consolidations were far less frequent.

Enclosed holdings of the *khutor* and *otrub* types were generally formed as a result of complete consolidation of the allotment lands of a whole village. Their formation by individual secessions from the commune was much less usual.

INDIVIDUAL CONSOLIDATIONS IN 1907–1913

Type of consolidation	*Number of farms*	*Area in deciatines*
By complete consolidation	562,700	5,542,600
By the secession of individual holders	235,400	2,473,600
By other forms of consolidation	46,000	296,700
Total	844,100	8,312,900

It will be noticed that about three-fourths of the newly formed holdings were the result of complete consolidations, involving whole villages. These figures indicate how groundless were the charges that the Government, in its land settlement policy, was forcing the *khutor* and *otrub* upon peasants who preferred to retain their scattered allotments.

The suggestion that the peasants who seceded from the commune to form holdings were those who held more than the average area of land is equally unfounded: the average size of enclosed individual holdings, 9.8 deciatines, was but slightly in excess of that of all peasant holdings, which in 1911 was 9.3 deciatines.

Lastly, it would be a mistake to assume that the land settlement reform, however radical, tended chiefly to the formation of holdings of the *khutor* or homestead type. The number of *otrubs*, on the contrary, greatly exceeded the number of *khutors*. This applies even to the land sold by the Peasant Bank between 1906 and 1913, when that institution was making every effort to encourage *khutors;* we find that only 26.3 per cent of this land was enclosed as *khutors*, while 73.7 per cent was bought by holders of *otrubs*.

Group Consolidation.

The following table shows the progress of this form of redistribution between 1907 and 1913:

GROUP CONSOLIDATIONS IN 1907–1913

Year	*Number of farms*	*Area in deciatines*
1907	6,400	59,900
1908	20,000	152,000
1909	93,800	691,500
1910	121,400	912,600
1911	126,100	992,200
1912	125,600	837,700
1913	156,600	967,500
Total	649,900	4,613,400

It will be observed that group consolidation developed more slowly, but more steadily than individual enclosure, and that the average size of the holdings involved was smaller, 7.1 deciatines as against 9.8 deciatines. With regard to their geographical distribution, group consolidations were most common in those districts outside the black-soil belt where individual consolidations were comparatively rare; this form was apparently accepted as a compromise in districts where local conditions made individual consolidations difficult or impossible.

Land Settlement in Siberia.

We have now dealt with the progress of land settlement in European Russia before the War, and will turn to Asiatic Russia. Here a beginning had been made, but no steps had so far been taken to abolish the commune, which was still predominant in Siberia. A bill, drafted on the lines of the law of June 14, 1910, was laid before the Duma, but the outbreak of the War occurred before it could be passed. The consolidation of scattered holdings, however, made rapid progress in Siberia. Where the villages consisted of old settlers, these consolidations were left to the initiative of the peasants and were carried out at their expense by private firms of land surveyors, the only government assistance taking the form of loans at the rate of about 35 copecks per deciatine. Between 1908 and the end of 1913, plans were prepared for the consolidation of

20,200,000 deciatines, boundaries were actually traced on about 11,100,000 deciatines, and work was entirely completed on 6,000,000 deciatines, out of a total area of 33,500,000 deciatines held by old settlers. The following figures show the annual progress:

LAND SETTLEMENT IN SIBERIA IN 1908–1913

Year	*Area in deciatines*
1908	118,500
1909	366,500
1910	489,000
1911	585,000
1912	2,300,000
1913	2,151,000
Total	6,010,000

These figures disclose the fact that from 1912 consolidation was proceeding more rapidly in Siberia than in European Russia, which is the more remarkable that in Siberia all the work was done on the initiative and at the expense of the peasantry. About four-fifths of the area involved was converted into enclosed holdings of both the *otrub* and *khutor* type, while *khutors* alone were formed on about one-fourth of this area. From 1911 onward half the holdings allotted to settlers by the Government consisted of enclosed farm plots of the *khutor* and *otrub* types; by the beginning of 1914, 2,100,000 deciatines had been so divided, in addition to about 400,000 deciatines for which schemes of settlement had been prepared. As the result of these measures, the beginning of 1914 saw an area of 8,500,000 deciatines, held by both old and new settlers, converted into enclosed holdings, the nucleus of a huge new country of *khutors* and *otrubs*. This was a most important development for Siberia, where the communal ownership of land, periodical redistributions, and the increasing dispersion of holdings greatly hampered the progress of farming, in spite of the vast territories available.

The Effect of the Reform.

The enormous scale on which land settlement was effected cannot fail to convince the student that it was a genuine popular movement. In the course of seven years communal landownership was abolished

over an area of 15,500,000 deciatines, while in European and Asiatic Russia consolidation was effected on an area of over 25,000,000 deciatines.

The land settlement policy was not, however, wholly free from defects, particularly in its early years. Secessions were encouraged without due consideration for the interests of those who remained in the commune, and in consolidations the interests of the landless and poor were often neglected; while distributions of common land and the consolidation of allotments into enclosed holdings were unreasonably insisted upon. The legal basis of the reforms was at first inadequate, and the methods employed were frequently unsatisfactory. All these shortcomings, which, moreover, were promptly remedied, could not in any case impair the enormous influence of land settlement reform on the economic and social life of the country. The experiment was too short-lived to make a permanent impression, yet it certainly ranked among the principal causes of Russia's agricultural progress in the years before the War. Its influence was not limited to the peasants directly concerned, for by making a breach in the blank wall of their mentality, it awakened in them a general interest in farming and its technical progress.

All investigations carried out by the Government and zemstvos bear witness to the effects of land settlement on farming, in so far as these were apparent in the short space of a few years. The area under cultivation increased; crops were 10 to 20 per cent higher than on neighboring farms unaffected by land settlement; more machinery was employed; marshes were drained and converted into useful land; the use of farm manure and fertilizers increased; the cultivation of plants serving industrial purposes and fodder grass was introduced in many districts; the fallow area was reduced; a transition to modern systems of crop rotation was initiated; although the number of live stock kept had not actually increased, the increase in the proportion of young animals was noticeable.

Lack of space unfortunately prevents our supporting these statements by numerical data; but an excellent indication of the value of land settlement is furnished by the price of consolidated land. In the districts investigated, the average price of land in scattered holdings was 120.7 rubles, while consolidated land realized 178.5 rubles, nearly 50 per cent more.

The Government supplemented its land settlement policy by

granting loans to new farmers, effecting improvements on their land, encouraging the use of fireproof buildings and organizing expert assistance. The loans were free of interest, and, in some cases, sums of money were granted as a direct subsidy. Between 1906 and 1911, 13,500,000 rubles was advanced in loans to 147,700 farmers, and 32,100 farmers received 800,000 rubles in subsidies.

The Government had scarcely begun to carry out its program of improvements when war broke out. During the first five years of land settlement, 1,300,000 rubles was assigned for this purpose, and these credits increased year by year until, in 1914, the total amount assigned for improvements reached 13,500,000 rubles. State assistance for fireproof building was introduced in 1911 in districts where land settlement was in progress. The importance of encouraging this kind of building in the wooden villages, subject to frequent fires, was obvious. During 1911 and 1912, 4,200,000 rubles was assigned for this purpose, and the sum was increased each year. The organization of expert assistance to farmers on their new holdings was begun in 1908, 12,000,000 rubles being appropriated to this service. In 1910 the Government and the zemstvos had 708 experts and 224 instructors and their assistants engaged on the work of directing and advising the holders of enclosed farms; there were also 1,800 model farms and 5,732 model plots. The friction between the Government and the zemstvos on the subject of agricultural assistance to the newly organized farms disappeared as the Government adopted the policy of placing most of its grants for that purpose at the disposal of the zemstvos. In 1912, out of a total of 5,200,000 rubles, 2,800,000 rubles more were assigned to the zemstvos. At the same time the Government was gradually extending its scheme of agricultural assistance to embrace all classes of the peasantry, instead of concentrating it on the occupiers of enclosed holdings.

Such was the progress of the great work of land settlement. As time went on, its original defects were remedied; and a new and healthy peasantry was being created on the solid foundation of individual peasant ownership. In the following chapters we shall attempt to describe the effect on this process of land settlement of the War and of the Revolution that broke out when hostilities were at their height.

CHAPTER III

THE WAR AND LAND SETTLEMENT

Germany's Interest in the Land Reform.

In the preceding chapter we have seen that the progress of land settlement was rapidly producing peasant holdings of moderate size, and establishing millions of new and stable farms on the appanage and State lands of European Russia and in her vast and hitherto unpopulated Asiatic possessions. It was also transforming millions of backward peasants, whose farming was hampered by the commune and the dispersion of their holdings, into small independent owners. They started new farms on their holdings, obtained expert assistance from the Government and the zemstvos, and organized themselves in powerful credit associations and coöperative societies.

Before the War, this transformation was proceeding on a vast scale, even judged by Russian standards. The whole economic and social organization of the country was being reconstructed at such a rate that had this process continued for a few years more it would have been entirely transformed. The peasantry, once extricated from the morass of the old agrarian *régime*, would have made rapid progress. The increase in agricultural production would have provided more raw material for Russian industry and the rise in the peasants' standard of living would have created a home market for its products. The well-being of the peasantry and the development of industrial production would have opened new sources of financial prosperity for Russia, while a large class of peasant owners, numbering scores of millions, would have insured the country against social catastrophe and contributed to her political stability.

This economic, financial, social, and political improvement would also have increased Russia's military power, for the Russo-Japanese War showed clearly that the unhealthy elements in her economic, social, and political life had sapped the efficiency of her huge army. The lessons of that war were turned to account in Russia after 1906; it almost seems as if the country was conscious of the great trials awaiting her, so intense were the efforts devoted to reorganization and renovation, including the thorough reconstruction of the

agrarian system by land settlement reform on an unprecedented scale.

This aspect of the land settlement policy was not widely appreciated in Russia: not only the opponents, but even the supporters of the reform in the Government and in the country, failed, with few exceptions, to realize the fundamental connection between the poverty of the peasantry and Russia's military weakness, and the importance of a prosperous and well-settled peasant class for the development of the military power of the country.

But if this was not fully understood in Russia, its significance did not escape the attention of Germany. The importance of the reform was the more clear to Germany, because her own strong peasant class had been built up on the foundation of a similar reform; and by comparing the rate of progress with her own past achievements, she was well able to appreciate the speed at which the reorganization of peasant farming was proceeding in Russia. Germany, therefore, was carefully watching these developments. Their study was carried out by professors of economics who had specialized in problems of farming and agrarian policy. Russian agrarian policy and land settlement were thoroughly investigated and analyzed in their economic classes. Numerous articles appeared in German journals dealing with the Russian agrarian problem, the State Peasant Bank, internal colonization in Russia, Russian land settlement legislation of 1906–1911, etc. At the University of Berlin, Professor Karl Ballod delivered a special course of lectures on "The Russian Agrarian Problem."

All this, however, being considered insufficient, it was decided to undertake the study of Russian land settlement on the spot. For this purpose, a large expedition of carefully selected observers was organized by the "*Vereinigung für Staatswissenschaftliche Fortbildung*" in Berlin and sent to Russia in May, 1912. The leader of the expedition was Dr. Max Sering, professor in the University and in the Higher Agricultural College of Berlin, a well-known expert on the internal colonization of the eastern provinces of Prussia, and the author of numerous works on the agrarian problem. He had studied Russian agriculture and agrarian relations, having even learned Russian for the purpose. The party included Professor Otto Auhagen, a former pupil of Dr. Sering and an expert in problems of agrarian policy, who had also learned Russian and was

deeply interested in the progress of land settlement in Russia.[1] The expedition also included Dr. K. Ballod, professor in the University of Berlin, a Lett by origin, born in Russia and formerly on the staff of the Statistical Bureau in Berlin; Dr. Dade, also an expert in agricultural economics, who edited the thirteenth edition of W. Roscher's *Nationalockonomik des Ackerbaues* (1903); Professors Schumacher, Zittelmann, and others, and a considerable number of prominent German officials. Before the journey, the members of the expedition were given a series of lectures on Russia, including Russian land settlement. The route taken was as follows: Warsaw, Kiev, Kharkov, Moscow, Tver, St. Petersburg. In the province of Kharkov (Valkovsky district) the party visited enclosed farms (*khutor*) on land bought through the Peasant Bank, while in the province of Tver (Rzhevsky district) they examined similar farms on peasant allotment land.

At a later date, a series of works on Russian land settlement was published, edited by Professor Sering. In 1913, a volume of essays on Russia was issued.[2] These articles included one written by an active worker in Russian land settlement, A. Koefoed, and one by Professor Auhagen. The latter contains most important data and an analysis of the land settlement reform, with comparisons of analogous measures carried out in Prussia. Professor Auhagen emphasizes the vast scale of the Russian reforms; with regard to the secession from the commune to individual holdings he says:

> Assuming that in 1911 the area of individual holdings enclosed from common land equals that of 1910, more land will have been enclosed in five years as a result of the Russian agrarian reform than was enclosed by the Prussian *Gemeinheitsteilung* in a whole century. The results achieved by the Russian land-settlement authorities within so short a period are extremely impressive.[3]

Referring to the consolidation of scattered plots and the formation of enclosed holdings (*khutor*) he says:

[1] It is worthy of notice that during the German occupation of southwestern Russia in 1918 Professor Auhagen was in Kiev at German Headquarters, while Dr. Sering also visited Kiev.

[2] *Russlands Kultur und Volkswirtschaft; Aufsätze und Vorträge im Auftrage der Vereinigung für Staatswissenschaftliche Fortbildung zu Berlin,* edited by M. Sering; Berlin and Leipzig, 1913.

[3] *Ibid.,* p. 123.

An opinion is expressed in some circles that the agrarian reform remains on paper, but with this opinion it is impossible to agree. Detailed reports of the progress of the agrarian reform in each province, as well as general reports, are published annually, and are at the disposal of anyone desirous of acquainting himself with the progress of the work. Had the individual holdings formed been "Potemkin villages,"[4] anyone in the least degree familiar with the actual work on the spot would be in a position to denounce the Government. Many people in Russia are suspicious of anything done by the bureaucracy; the Russian Opposition consistently maintains that everything devised by the Government is necessarily bad,[5]

and this view, owing to the influence of the great Russian liberal papers, is also prevalent in the western press.

But having seen the situation at close quarters, one cannot fail to appreciate the great energy and other valuable qualities of that section of the Russian bureaucracy which is entrusted with the work of land settlement. The Opposition has shown itself unfavorable to the whole scheme of land settlement, although many of its members were, before the Japanese war, opponents of the communal system, against which the reform was specifically directed. The Opposition program involved the compulsory expropriation of private landowners in favor of the peasants, all other measures being subordinated to this. When, therefore, the project of compulsory expropriation was rejected by the Government, the Opposition assumed a bitterly hostile attitude to the official agrarian proposals. The Government incurred much odium through having taken upon itself the responsibility of solving one of the most difficult problems of Russian life, the agrarian problem—and particularly the problem of communal land-tenure—three months before the opening of the Duma. It was precisely the complex character of the problem, however, which made it essential for the Government to take immediate action instead of allowing the Duma to delay the necessary and urgent reform in innumerable committees and sub-committees. Incidentally the Duma subsequently approved almost all the Government's proposals.

This passage clearly indicates the views held in Germany, a year

[4] Sham villages constructed by Catherine II's favorite, Potemkin, in order to present the steppes of Southern Russia to Her Majesty as highly cultivated estates.

[5] Sering (ed.), *op. cit.*, p. 131.

before the outbreak of the War, on the subject of the land settlement reform inaugurated in Russia in 1906.

After mentioning the defects of the reform, to which we referred in the last chapter, Auhagen says: "Agrarian reform, in my opinion, is an essential condition of Russia's progress: the time for it had come and the reform had to be carried out."[6] In the present author's opinion, the tragedy lies in the fact that land settlement was undertaken too late.

With reference to the influence of the reform on the productivity of Russian agriculture, Auhagen says:

> I have no doubt whatever that the average yield of crops in Russia will soon show a large increase [because] the most important effect of the agrarian reform is that it permits of progressive improvement in peasant farming. . . . Russian agriculture is bound to develop rapidly, because all elements capable of progress have hitherto been held in bondage by the backward majority that controlled the village. . . . This system reduced farming to a level so low that the rapid growth of the population threatened to create a large class of a village proletariat.

Land settlement has precisely achieved the emancipation of the progressive minority from the domination of an ignorant majority; "the former system of mob-law has given place to the leadership of a peasant aristocracy."[7]

Auhagen adds that the desire to increase agricultural production was not the only motive that induced the Government to undertake the land settlement reforms. The Opposition was not altogether wrong in suggesting that the reforms were dictated by class interests. It was hoped that the peasantry, imbued with communistic instincts fostered by the communal system, would by this means be transformed into a class forming the bulwark of private property. The large landowner, hitherto left to fight his battles alone, would thus acquire a strong ally in the new peasant owner. "But," as Auhagen observes, "the actual motives of the Government are of secondary importance; whatever they may have been, the Government has undertaken a work destined not only to revolutionize Russian farming, but also to cause profound changes in the national char-

[6] Sering (ed.), *op. cit.*, p. 134.
[7] *Ibid.*, pp. 134, 139, 140, 143.

acter."[8] Auhagen reports this significant opinion of an agriculturist born in Switzerland: "Twenty-five more years of peace and of land settlement work, and Russia will become an altogether different country."[9]

W. Preyer's *Die Russische Agrarreform*, another German work on the subject of Russian land settlement, was published in 1914. The same author published, during the War, an article in which he describes the defects of the old system of peasant land tenure, laying particular stress on the evil effects of communal ownership: "The right of everyone to an equal allotment of land, which the communal system ensured, ultimately became an equal right for everyone to die of starvation."[10] After discussing data illustrating the success achieved by land settlement during the years 1907–1911, Preyer remarks that the actual results have exceeded all expectations, because "the reform met the real needs of the population" and "its fundamental idea, the abolition of obsolete agrarian communism and the establishment of private landownership, was a sound one." The reform is therefore bound to produce a strong peasant class, which will become the economic and political mainstay of the State. "There is no doubt whatever," Preyer concludes, "that the completion of the reform will enable Russia to support for many decades to come a population increasing at the same high rate as during the last twenty or thirty years."[11] Writing in 1917, Preyer points out, with considerable satisfaction, that the War and the revolution have stopped the reform.

That German interest in Russian land settlement reform was maintained during the War is proved by the publication, in 1916, of a special memorandum dealing with its progress between 1909 and 1913, and containing information on budget grants for land settlement and for assistance to agriculture.

As a final illustration of Germany's attitude toward Russian land settlement, we may mention the paper read by Dr. Sering before the Prussian Academy of Sciences in Berlin.[12] This paper describes

[8] *Ibid.*, p. 140.

[9] *Ibid.*, p. 145.

[10] In the collection *Westrussland in seiner Bedeutung für die Entwicklung Mitteleuropas*, with an introduction by M. Sering, Leipzig, 1917, p. 265.

[11] *Ibid.*, p. 287.

[12] *Die Umwälzung der Osteuropäischen Agrarverfassung; Sonderabdruck*

the agrarian changes effected by the Russian Revolution. After summarizing the agricultural situation before land settlement was introduced, Sering gives a detailed description of the reform. He points out that even in 1905, "the average size of peasant farms in European Russia was 10 hectares[13] of allotment land and 2.25 hectares of land privately owned, and that only 20.75 per cent of the peasants had holdings of less than 5 hectares." If, therefore, the Russian peasant was poor, "this must have been due to unsatisfactory farming." The new agrarian policy, inaugurated in 1906, further increased the area held by the peasants; down to the outbreak of the War an additional area of 10,900,000 hectares had been transferred to them, an area exceeding that of all the large estates in the whole of pre-war eastern Germany. But it is not in this extension of peasant holdings that Sering finds the main importance of the pre-war agrarian reform. Its principal achievement was that

> it had resolutely undertaken the breaking up of common lands and had introduced the effective organization of individual holdings. . . . In central and southern Russia I was able by personal investigation to convince myself of the high degree of devotion, energy, and knowledge applied to the execution of the reform. Had land settlement been completed, it would have solved the Russian peasant problem by giving free play to the efficient farmer.

And here we again find, in a slightly different form, the significant words about land settlement and years of peace. Sering attributes them to A. V. Krivoshein, the head of the Central Board of Land Settlement and Agriculture (the official title from 1906 to 1917 of the Ministry of Agriculture): " 'We want thirty years of peace,' he said to me in St. Petersburg, in 1912, 'to enable us to become a permanently wealthy and powerful nation.' " Sering adds that the War and the Revolution "have completely destroyed this prospect."[14]

These references show what great importance Germany attached to Russian land settlement.

aus Bd. XIII, Heft 3/4, Jahrg. 1920–1921 des Archivs für die innere Kolonisation.

[13] One hectare = 0.9 deciatine = 2.5 acres.

[14] Sering, *Die Umwälzung der Osteuropäischen Agrarverfassung,* pp. 7, 8.

A French View of the Land Reform.

French interest in the Russian land settlement was also pronounced. In 1912 the *Revue des Deux Mondes* published a descriptive article by A. A. de Mokeevsky, a Russian author, dealing with its essential features and its progress between 1907 and 1910.[15] In 1913 the *Revue Economique Internationale* published an article on Russian land settlement by M. Pierre Chasles,[16] in which he gives an account of the reform. In discussing the communal system, he refers to an article, *La question du servage en Russie*,[17] written as early as 1858, by the Polish-French economist, R. L. Wolowski, who stigmatized serfdom and communal landownership as twin evils, leading to the degradation of the human being and to bad farming. Chasles therefore welcomes the agrarian reform of Stolypin and Krivoshein, which released the peasants from the second of these two evils. He considers the reform as the more appropriate since the commune had already virtually ceased to exist. He supports this view by quotations from the Russian historian, M. Kovalevsky, who discusses the gradual abandonment of redistributions of land in Russian communes.[18] After describing the various forms of land settlement in progress in 1911 and commenting on the enormous scale of the work, M. Chasles concludes: "Rural Russia is now finally roused from its age-long lethargy; this will prove one of the most important events in Russia's modern history."

France welcomed the rapid progress of Russian land settlement and rejoiced in the consequent increase in the power of her great Eastern ally. The former French Ambassador at Petrograd, M. Maurice Paléologue, expresses approval of the reform in his memoir *La Russie des Tsars pendant la Grande Guerre*.[19] He describes the reform as "a very well-chosen method of abolishing the old agrarian *régime*, whose defects and vices were daily becoming more evident." He deplores that the course of events and the result of the War for Russia had not permitted the reform to be continued for

[15] *La réforme agraire en Russie*, pp. 419–444.

[16] *Les réformes agraires et l'évolution des classes rurales en Russie*, Octobre, pp. 55–85.

[17] *Revue des Deux Mondes*, July 15–August 1, 1858.

[18] M. Kovalevsky, *Tableau des origines et de l'évolution de la famille et de la propriété*, Stockholm, 1890, p. 195.

[19] *Revue des Deux Mondes*, December 15, 1921, pp. 790–792.

another ten years; adding that the "wholesale partition of land," which took its place, "can only increase the confusion of agrarian relations, and lead to a terrible outbreak of robbery, destruction and anarchy." These quotations indicate French views on the subject.

Effects of the War.

This work of land settlement, which attracted so much attention both in Germany and France, gradually slackened, however, during the War. At the beginning of the War it was carried on for a time by its own momentum, but its pace steadily declined as the energies of Government and people were increasingly absorbed by other tasks. A few special forms of land settlement continued, however, for a considerable time.

During the first year of the War land settlement proceeded at almost the usual rate, except in the provinces adjoining the military front, where owing to the movements of troops and other wartime conditions, the actual field work of land settlement was abandoned. In 1915, owing to the retreat of the Russian armies, the front was withdrawn considerably eastward, which naturally caused the suspension of land settlement throughout the neighboring districts. Numerous land settlement organizations in the western provinces were removed to the interior, and their staffs distributed among other provinces, where, in 1915, land settlement was still in progress, although on a reduced scale. But in 1916 the work was drastically curtailed, while certain branches, which were no longer practicable, were completely suspended.

The Effects of the War on the Purchase of Land by the Peasants.

In the first place the War caused a great decline in the activities of the Peasant Bank. The purchase of land by the Bank on its own account gradually ceased. The purchase of land by the peasants through the agency of the Bank, and from the reserve held by the latter, also showed a gradual decline. The following figures illustrate these facts:

PURCHASE OF LAND BY THE PEASANTS IN 1913–1915

Years	*Number of purchasers*	*Area in deciatines*
1913	108,100	894,100
1914	87,700	673,900
1915	43,400	326,400

In 1916 and the beginning of 1917 the decrease was even more marked.[20]

This decline in the activities of the Peasant Bank was due to various causes, all connected with the War. Landowners did not care to exchange their land for a steadily depreciating currency; and for the same reason the Peasant Bank was reluctant to part with the land at its disposal. Moreover the peasants, whose ranks were depleted by mobilization, were unable, in many cases, to farm the area already in their possession, and were not inclined to buy more land; they preferred to wait till the War should be over, and the men returned home. Peasants usually regard the purchase of land as a most serious undertaking, and during the War they were quite unable to give to the matter the attention it deserved. Finally, such purchases as actually took place were transacted without recourse to the Bank. Before the War, the peasants had to make use of the Bank to obtain the necessary credit, but under war conditions many of them accumulated considerable sums of money, so that they were able to purchase land for cash without the Bank's assistance.

Thus the War and the Revolution ended the activities of the greatest land bank ever formed. In the thirty-five years of its existence, from 1882 to 1917, it transferred nearly 18,000,000 deciatines to the peasants. Without interfering with the existing *régime*, it created, on the estates of former landlords, over a million strong peasant farms, which included 250,000 *khutor* and *otrub* holdings, occupying 3,200,000 deciatines. The ownership of large estates was rapidly vanishing in Russia. In 1877 the estates of the nobility still comprised an area of 73,100,000 deciatines, which had decreased, by 1905, to 53,200,000 deciatines. After that date, the revolution

[20] The total area of land purchased by the peasants through the Bank during the whole period from 1906 up to the Revolution of 1917, when the activities of the Peasant Bank were finally suspended, reached 10,000,000 deciatines.

of 1905, the work of the reorganized Peasant Bank, and the other measures of the agrarian reform still further reduced the area of cultivable land in the possession of landlords. The extent of this reduction can be gauged from the results of the Agricultural Census of 1916, when it was found that the total area under crops in European Russia (excluding regions occupied by the enemy) was divided between landlords' estates and peasant farms in the following proportions: large estates, 7,687,400 deciatines or 10.7 per cent; peasant farms, 63,743,700 deciatines, or 89.3 per cent. It may be contended that a proportion of the land cultivated by peasants was leased to them by landlords; and that the Census of 1916 did not represent normal conditions, because the War caused a more considerable reduction of cultivation on landlords' estates than on peasant farms. But these considerations do not affect the essential fact: by 1916 nine-tenths of the whole area under crops in Russia was cultivated by peasants. This remarkable change was largely due to the facilities for acquiring land that the peasants enjoyed, under the reforms of 1906, until the outbreak of war and, in a lesser degree, until the Revolution. The result is the more striking that not only was it achieved without injury to Russian farming in general, but it was even accompanied by a marked increase in the productivity of the land. Very different has been the outcome of the measures taken since 1917 by the Revolutionary Government, to complete the transfer of land to the peasants. This object was only attained at the cost of the utter destruction of Russian farming and the terrible impoverishment of the peasantry. It was only natural that Professor Kossinsky, writing in 1917, should maintain that the "decapitalization" of farming could be better and more completely effected by the methods already in use, than by the adoption of drastic and forcible measures.[21]

Effects of the War upon Emigration.

Another form of land settlement to suffer severely from the War was the emigration of peasants to Asiatic Russia. On the outbreak of hostilities the peasants themselves lost all interest in emigration, because those who were not mobilized were hardly able to cope with the work on their own farms; and, in any case, emigration was ren-

[21] V. A. Kossinsky, *K Agrarnomu Voprosu* (*Toward the Solution of the Agrarian Problem*), Kiev, 1917, II, 18.

dered impossible by transport conditions; for the resources of all the railways, including the Trans-Siberian, were taxed to the utmost by war-time requirements. The War therefore checked the colonization of the vast unpeopled territories of Russian Asia, which had assumed such extraordinary proportions after its reorganization in 1906. Emigration to Asia was resumed during the later years of the Revolution, but it was no longer organized emigration, but a purely spontaneous flight of the population from the starving provinces of European Russia to the less affected territories of Siberia. The activities of the Emigration Department and of its local organizations continued, however, throughout the War, until the Revolution put an end to them. They had, of course, to be curtailed, since a large proportion of the staff was diverted to work on army supplies, and many others were called to the colors. The suspension of actual emigration largely changed the character of the work, the energy of the staff being now directed to the preparation of allotments for future settlers.

Effects of the War upon Consolidation.

We shall now consider the progress of the land-tenure reforms, as affected by the War. Secessions from the commune and appropriations of allotments by their holders decreased in number, as did applications by peasants for the appropriation of their allotments in accordance with the Ukase of November 9, 1906.[22] The number of applications was 160,300 in 1913, 120,300 in 1914, and only 36,500 in 1915. The War also saw a decline in the number of peasants who separated from the communes under the Ukase of November 9, 1906, and of those who obtained certificates of appropriation, as provided by the law of June 14, 1910:

NUMBER OF PEASANTS WHO LEFT THE COMMUNES IN 1913–1915

Year	*Secessions under the Ukase of November 9, 1906*	*Certificates of appropriation under law of June 14, 1910*	*Total*
1913	134,600	97,800	232,400
1914	97,900	65,300	163,200
1915	29,900	18,600	48,500

[22] By January 1, 1916, the total number of applications received was 2,755,600, equal to 25 per cent of all the peasant households in the communes.

By January 1, 1916, 2,008,400 peasants, representing 20 per cent of all the farms in the communes, had separated from the communes and become individual owners of their allotments in accordance with the Ukase of November 9, 1906; and 469,800 had obtained certificates of appropriation under the law of June 14, 1910. The total number thus amounts to 2,478,200.

The area of allotment land appropriated by the peasants exceeded 15,300,000 deciatines on January 1, 1914; by January 1, 1916, it had reached about 16,900,000 deciatines (about 14,100,000 deciatines being appropriated under the Ukase of November, 1906, and about 2,800,000 deciatines under the law of June, 1910). The total area of allotments appropriated by their holders during the first two years of the War was therefore less than 1,600,000 deciatines. Over 1,000,000 deciatines of this area were, moreover, dealt with in 1914; it is clear, therefore, that the area of peasant allotment land separated from the communes decreased by more than half in the second year of the War. The delay caused by the War in the dissolution of communal landownership, and the check which it placed on the transfer of land to the peasants were among its most adverse effects on the economic development of the Russian peasantry.

But, while the transfer of communal allotments to individual peasants greatly decreased during the War, the sale of such allotments still continued, though on a somewhat reduced scale. Thus, in 1913, 734,600 deciatines of allotment land were sold, 685,100 deciatines in 1914, and 407,100 deciatines in 1915. This more gradual reduction in the sales of allotment land increased the proportion that the area of allotments sold bore to that of all allotments settled on their holders. This was below 20 per cent before the War; but by January 1, 1916, out of 16,900,000 deciatines of allotments that had become the property of their holders, over 4,100,000 deciatines, or nearly 25 per cent, had been sold.

Individual enclosure of the *khutor* and *otrub* type was carried out by January 1, 1916, by 1,082,800 farmers and involved an area of 10,790,600 deciatines. Of these numbers 238,700 enclosures covering an area of 2,478,700 deciatines were executed in 1914 and 1915. We see that during the first two years of the War individual enclosure was still in progress; but in comparing the averages for the two years 1914–1915 with those for the three years immediately

preceding the War (1911–1913) we find a very considerable decrease:

DECREASE IN THE NUMBER AND AREA OF INDIVIDUAL CONSOLIDATIONS

Period	*Average number of farms enclosed annually*	*Average area enclosed annually (in deciatines)*
1911–1913	175,000	1,700,700
1914–1915	119,300	1,239,300
Decrease	55,700	461,400

Difficulties in Carrying Out the Work.

This decrease was due both to general conditions created by the War and also to its special effect on the work of the land settlement organizations and on conditions in the rural districts. In the first place, many of the land settlement officials were called to the colors. It is true that comparatively few of the more responsible members of the staff were mobilized, that the permanent members of provincial land settlement committees were exempted from military service on account of their rank, and that temporary exemptions were granted to the permanent members of district committees and to land surveyors. But even these groups of officials were depleted by the calling up of the reserve officers belonging to them, while a certain number volunteered for service. The numerous assistant surveyors were not, however, entitled to exemption, and it was only possible in exceptional cases to obtain a postponement of their mobilization. Of the 7,500 officials of land settlement committees (51 permanent members of provincial committees, 470 permanent members of district committees and about 7,000 land surveyors and their assistants), about 2,000, or nearly one-third, joined the army, while many more were diverted to work on army supplies. This reduction in personnel was most felt in the work of marking out individual enclosures, which required a large staff.

The formation of individual enclosures of the *khutor* and *otrub* types was also restricted owing to the curtailment of the budgetary grants for this purpose, due to the need for economy in all expenditure not directly connected with the War. This retrenchment was the more seriously felt since the repeated issues and consequent de-

preciation of paper money increased the cost of land settlement. It became extremely difficult, and sometimes impossible, for the land settlement officials to visit places where consolidations and enclosures were in progress, since all available means of transport had been diverted to war work. The general rise in prices by increasing the burden of various compulsory services to which the peasantry was subject placed further obstacles in the way of land settlement.

At the same time, the progress of the work was affected by the conditions that the War produced in the country districts and, particularly, by the ever increasing mobilizations. By the end of 1915, most of the heads of peasant households were absent on active service. Their consent was essential before land settlement work could be begun; but as their whereabouts were often unknown to their fellow villagers, it was extremely difficult to obtain the necessary resolutions of the village assemblies (*skhod*), and numerous misunderstandings ensued. These facts were taken into account in preparing the program of land settlement work for 1916. By an order of the central land settlement organization, circulated in February, 1916, land settlement committees were instructed to confine themselves to the completion of work already in hand, without undertaking any new tasks. Instructions were issued to the effect that, pending the return of heads of households from the army, no resolutions concerning new land settlement work should be passed, nor any acts confirming the acceptance of consolidations already complete adopted, by the village assemblies, in any case where the consolidation was opposed by families whose heads were absent, or, indeed, by anyone else.

Scope of the Reform.

In summarizing the progress of individual enclosures of allotment land, we find that in the course of nine years, from 1907 to the end of 1915, 1,082,800 individual enclosed holdings of the *khutor* and *otrub* types were formed, involving the redistribution of 10,790,600 deciatines of land. About 70 per cent of these were formed by the consolidation of the allotments of whole villages[23] and about 33 per cent by the secession of individual peasants[24] from the

[23] 723,300 farms occupying 7,080,500 deciatines.

[24] 359,500 farms occupying 3,710,100 deciatines.

commune. Group consolidations accounted for the formation of a further 138,700 enclosed holdings covering 1,097,600 deciatines. On January 1, 1916, the total number of enclosed holdings (*khutor* and *otrub*) in existence reached 1,221,500, or nearly 10 per cent of all the peasant farms in Russia, while they comprised 11,900,000 deciatines, or nearly 10 per cent of the total area. The average area of the new holdings was therefore about 9.7 deciatines per farm. As regards progress during the third year of the War, the last year of Russian land settlement, we find that between 1907 and January 1, 1917, 1,301,300 enclosed holdings were formed on 12,652,300 deciatines.[25] Comparing these figures with those for January 1, 1916, we see that only 79,800 new farms, covering 764,100 deciatines, were formed in 1916. This is a little over one-half of the figure for each of the two preceding years.

The total number of all enclosed individual holdings of the *khutor* or *otrub* type, formed not only on allotment lands but also on those bought through the Peasant Bank and on State lands, during the ten years of land settlement (1907 to 1917), is computed by M. Pershin at 1,596,600, with an aggregate area of 15,896,100 deciatines.[26] Appendix I shows the development of enclosed holdings of either type, formed on allotment lands, in each province, while the map of Appendix II shows the proportion involved of the total number of peasant farms in each province. It appears from Appendix I that the highest proportion is found in the northwestern, southern, and southeastern provinces, and the lowest in the northern, northeastern, and some of the central provinces. Such was the position of individual consolidations on the eve of the Revolution of March, 1917. While this form of land settlement had shown a marked decline during the War, group consolidation, on the contrary, had slightly increased during its earlier years. This was partly due to the fact that this form of land settlement was most frequent in the communal lands of central and eastern Russia, where the influence of the War was less felt than in the western provinces; moreover, group consolidation, although a far less satisfactory form of land settlement than individual enclosure, has the advantage of being much more easily effected. It was along this

[25] *O Zemle* (*About Land*), Moscow, 1921–1922, I, 188–191.
[26] *Ibid.*, p. 60.

line of least resistance that the work of land settlement chiefly progressed during the War. Out of the total number of 1,020,500 peasant households with an area of 7,539,700 deciatines which separated from the communes by January 1, 1916, as a result of group consolidation, the consolidation in 370,600 cases involving an area of 2,926,300 deciatines was carried out in 1914–1915. A comparison of the annual average for 1911–1913 with that for 1914–1915 gives the following result:

INCREASE IN THE NUMBER AND AREA OF GROUP CONSOLIDATIONS IN 1914–1915

Period	*Number of farms*	*Area in deciatines*
1911–1913	136,100	932,500
1914–1915	185,300	1,463,100
Increase	49,200	530,600

After January 1, 1916, this form of land settlement suffered a decline, comparable with that experienced in other branches.

To the statistics of group consolidations given above it is necessary to add the considerable amount of work done by the land settlement organizations in tracing the boundaries of holdings. During the whole period of land settlement, up to January 1, 1916, this work was performed in accordance with the Land Settlement Act for 177,100 peasant holdings, comprising an area of 1,132,600 deciatines.

Losses of Personnel.

We have already stated that a large number of the officials of the land settlement organizations were called to the colors; many were wounded or killed. The Ministry undertook the care of their families, while the staff also collected large sums for the benefit of dependents of those who joined the army and of the wounded. Our object in referring to this is to show how closely the tie of common work bound the huge staff of the land settlement organizations into a single family. This true comradeship was commemorated by the foundation, during the War, of a well-equipped sanatorium in the Crimea, for wounded and convalescent members of the staff of the Ministry of Agriculture.

Participation in the Organization of Food Supply.

The land settlement staff was further depleted and diverted from its proper function by being drawn upon for work on army supplies and on the food supply of the population. The provisioning of the army, including the supply of (1) grain and flour; (2) meat and fats; (3) forage (oats, barley, hay, and straw), was entrusted to the Ministry of Agriculture in 1915. The work was carried out in collaboration with the Ministry of War, which indicated the nature, the quantities, and the destination of the necessary supplies and allotted the requisite credits for their purchase. The central organization under the general supervision of the Minister, A. V. Krivoshein, was entrusted to G. V. Glinka, head of the Emigration Department, and to S. N. Lenin, a Member of the Council of the Ministry. The local administration was placed in the hands of the most active representatives of the Department. Officials of the Ministry of the Interior, numerous members of the zemstvo and in some districts even business men (for instance, important grain merchants), were also called upon to join in the work, which was carried on in Siberia as well as in European Russia. The whole country was divided into districts and a commissioner, usually chosen from among the active members of the zemstvos, was placed in charge of each, and made responsible for the whole work of providing supplies in that district. This division of the country into a number of separate regions, whose food supplies were independently administered by a number of virtual dictators, was a serious error, and caused many anomalies. The activities of the various commissioners lacked coördination; in some cases they were actually working against each other, and the measures taken were often contradictory. In an endeavor to achieve coöperation throughout the huge territories involved, the Government organized periodical consultations between the central and local officials. But on the whole, the huge and difficult task imposed on the Ministry of Agriculture, its local organizations and the zemstvos, was far from adequately performed. This was not caused, to any great extent, by corruption or theft among the staff: such cases were comparatively rare. It was rather due to the inexperience and incompetence, in commercial matters, of the staff to whom the newly created machinery was entrusted. The commissioners, with rare exceptions, became the object of ridicule, sar-

casm, and innumerable stories both at the front and behind the lines. As long as the stock of available supplies remained large, the incompetence of the land settlement officials in this work had no very marked effect. It caused the imposition of unnecessary restrictions on the economic activities of the population, especially on trade, of irritating regulations and other useless measures. But with the gradual depletion of the foodstuffs in the country, with the fall in production, and the growing inadequacy of transport and its increasing incapacity for regular service, the work of the commissioners became more strikingly inefficient, and their activities provoked increasing disaffection and severe criticism.

It is true that the huge Russian army was kept adequately supplied by the efforts of that organization. But the restrictions that it imposed destroyed trade. The Ministry of Agriculture was consequently forced to extend its activities and to assume entire responsibility for the provisioning, first, of the larger cities and of the workers in the principal industrial, mining, and transport concerns, particularly those employed on war work, and later, of the whole population of the smaller towns. The work involved was far beyond the resources of the available organization, whose efficiency was thus further impaired, while the maintenance of an expensive and inexperienced staff enhanced the cost of necessaries. Discontent among the population and complaints against the commissioners naturally increased. The feeling against the organization was embittered by the fact that many persons liable to mobilization had joined it as commissioners or representatives of the Ministry of Agriculture in order to avoid active service. These people gradually supplanted the old officials of the land settlement and emigration organizations, who, whatever their shortcomings, were used to working on a large scale and to constant direct intercourse with the peasantry and were therefore better fitted than their successors to cope with the new and difficult tasks imposed upon them. It should be added that as long as this commissariat work was under the supreme control of the energetic and experienced Krivoshein, Minister of Agriculture, it could be carried on somehow, even though it had grown far beyond the capacity of the staff, and in spite of the folly of entrusting it entirely to government and zemstvo officials, without the assistance of professional business men. But when he retired from office neither of his two successors, Count A. A.

Bobrinsky and, later, A. N. Naumov, was able to cope effectually with a task of ever increasing difficulty.

The last Minister of Agriculture before the revolution was A. A. Rittikh, one of the principal leaders of land settlement work before the War. With characteristic energy he endeavored to overcome the difficulties of the food situation, which by the end of 1916 had become extremely serious. He had to strive against the canny policy of many responsible local workers and of certain members of the Special Council on Food Supply (V. Gromann and some others), whose criticism and opposition were growing in force with the increase of revolutionary feeling in the country. After the Revolution, the principal leaders of that opposition were placed in control of the food supply, and the comparative collapse of its organization under their administration proved how mistaken was their policy and how much easier is criticism than constructive work. But at the end of 1916 and the beginning of 1917, these attacks achieved their purpose, by undermining the authority of the Government and thus making the position even worse than before. In order to cope with the situation, A. A. Rittikh was compelled to have recourse, temporarily, to a very drastic measure: the requisitioning of grain and the assessment among the provinces that produced grain in excess of their own needs of the total quantity required to be supplied in 1916–1917. While this measure was being carried into effect came the Revolution, whose immediate cause was the shortage of food in Petrograd in the early part of March, 1917.

It is not our purpose here to describe and analyze the work of the food supply organizations during the War. These are dealt with in a special volume of this series.[27] Our only reason for referring to it here is to show into what channels were diverted the energies of such of the leaders and local officials of the land settlement organizations as had not joined the army or were not still engaged in carrying out their regular work.

New Plans for a Land Reform.

If the War caused a steady diminution in the pre-war forms of land settlement, it was, on the other hand, responsible for the

[27] P. B. Struve, *Food Supply in Russia during the World War* (Yale University Press, 1930).

development of new agrarian plans. The War demanded great sacrifices from the whole population, and especially from the peasants, in labor, health, and even life. For these sacrifices the people expected compensation, and, in the case of the peasants, the compensation expected was an addition to their holdings. We find, accordingly, that the agrarian reforms carried out since the War in all the new or newly restored agricultural countries of eastern and of central Europe (Rumania, Bulgaria, Yugoslavia, Czechoslovakia, Hungary, Poland) consist, essentially, in the payment of compensation, in the form of land, to the peasants for blood shed by them in the War. This theory is supported by the fact that in nearly all the countries mentioned, ex-service men have legally a prior claim to the expropriated estates of the large landowners. The idea of compensating the population for sacrifices endured in the War by the distribution of land was also gaining ground in Russia. New agrarian plans, based on this idea, were being devised even under the old *régime*. The distinctive feature of these pre-revolutionary agrarian plans was the desire to execute them without recourse to the expropriation of private lands. It was intended to distribute, on advantageous terms, to those who had fought in the War and to their families the private estates offered for sale by their owners to the Peasant Bank. The main supply of land for this purpose was, however, to come from the vast arable lands still owned by the State. With this object in view, the Ministry of Agriculture had, since 1915, been paying particular attention to the "lease lands" owned by the State and formerly leased to private enterprise for cultivation and development. There were several million deciatines of such land in European Russia; but most of it required certain improvements to render it suitable for cultivation: irrigation in the south and southeast and drainage in other districts. The land had to be carefully surveyed, and plans made for dividing it into small holdings. Special boards in charge of the State land reserve were organized for this work, and incorporated in the local Department of State Property of those districts in which considerable areas of State-owned "lease land" were available. The administrative staff and the surveyors of the land settlement committees were called upon to assist these newly created boards. During the latter part of 1916 and the early months of 1917 these boards completed a detailed survey and description of

the State-owned lands available, and decided what improvements were necessary, and which of these should first be undertaken; in some provinces the work was actually begun. The scheme met with the whole-hearted approval of the legislative bodies, which, in spite of the drastic retrenchments in all budget estimates necessitated by the War, passed all the credits required for the preparation of this reserve land for settlement. Improvements on a very ambitious scale were already in progress in the provinces of Samara and Saratov, where over 1,500,000 deciatines of State land of very high quality, but requiring irrigation, were available. In some parts, afforestation was also necessary in order to equalize the winter rainfall and to protect the fields from drifting sand and from the influence of dry east winds. It was proposed to build a number of dams in ravines and in the beds of dried up or shallow rivers so as to form reservoirs, which would be filled in spring and would retain water throughout the summer. Later investigations indicate that it would be possible by this means to irrigate nearly the whole of the State-owned lands in these two provinces; and also to make specially irrigated plots in the immediate neighborhood of the reservoirs. A system of agricultural centers was planned for the whole area; an expert adviser was to be appointed to each center, which was to include a model farm, a dairy farm, a vegetable garden, a nursery for afforestation, and a stock of agricultural machinery for hire. These centers were to disseminate information on farming and afforestation among both the settlers on State lands and the rest of the local peasantry. The work was begun in 1915, and in 1916 several dams were completed. The surveys for irrigation, and the preparation and actual execution of the proposed irrigation works, were entrusted to a special party of irrigation engineers. The extensive excavation that the execution of the scheme involved was carried out by large gangs of prisoners of war, numbering 3,000 in all. At the same time nurseries for afforestation were planted in selected localities. Work was also begun on the State-owned lands in the provinces of Tavrida, Astrakhan, and Kherson.

In connection with the scheme for settling ex-service men on State-owned lands, the idea arose of organizing a special reserve of land for those who had won the St. George's Cross in the War. M. Krivoshein, who was then Minister of Agriculture, elaborated the scheme in a special memorandum which the Tsar approved. This

reserve, which was to be prepared in advance for settlement, was to be composed of land in the possession of the State, the Peasant Bank and the Emigration Department, and of health resorts' plots in the Crimea and the Caucasus. This land was to be granted to those who had received the Cross of St. George for meritorious service, and to their families. Larger allotments were intended for officers and smaller for non-commissioned ranks. But owing to the Revolution this scheme was never realized.

During the Revolution, as we shall see in the next chapter, the redistribution of land assumed a purely primitive form. The deeper sociological significance of this spontaneous and unorganized redistribution of land was the same as that underlying the agrarian reforms carried out in other countries since the War: land for blood; compensation to the people for sufferings endured in the War. But as in Russia this compensation was obtained by force, in the course of a revolutionary upheaval, it bore no relation to individual service rendered in the War.

Reference must be made to another land settlement plan conceived during the War, and involving the extreme north of Russia. In 1916 a scheme was devised to facilitate the exploitation of the vast forests in the province of Archangel, and to increase the export of timber and other products of forestry, by creating numerous settlements of foresters in that region. Leading representatives of the Russian timber trade joined in working out this plan, which was almost completed by the end of 1916. Had not the Revolution of 1917 prevented its execution, this scheme would have inaugurated a new era in the exploitation of Russia's natural resources and in the economic development of her Northern provinces.

Conclusions.

To summarize the course of Russian land settlement during the War: the work was at first carried forward by its own momentum; but as the War went on, its activities ceased one by one. Its more important and complicated forms were the first to suffer: the purchase of land through the Peasant Bank; organized emigration and the settlement of new colonists; secession from the commune and the appropriation of their allotments by the holders; the distribution of common lands and the formation of enclosed holdings of the *khutor* and *otrub* types.

It would be impossible to estimate the damage caused to Russia by this interruption of the reforms. The Revolution, a direct outcome of the War, brought the work to a complete standstill and annihilated the whole land settlement organization. Land settlement satisfied the pressing needs of Russian farming, and the whole-hearted support that it received from the peasants is demonstrated by the enormous number of applications received in the nine years during which it was in progress (January 1, 1907–January 1, 1916) for the delimitation of holdings: 2,488,100 in 1907–1911, and 6,174,500 in 1912–1915, giving a total of 8,662,600. These applications related to more than one-half of all the peasant farms. So great was the number of applications received that, in spite of the continual expansion of the land settlement organizations described above, by 1916 the work was only completed in about 40 per cent of the cases. Now, all this work, carried out with such energy and with such marked success, was suddenly and violently undone by an outburst of anarchy and destruction without precedent in agrarian history. This complete annihilation of the achievements of ten years' work in land settlement was one of the most disastrous effects of the War on Russia's economic life. It will be shortly described in the next chapter.

CHAPTER IV

THE REVOLUTION AND LAND SETTLEMENT (MARCH–DECEMBER, 1917)

Attitude of Political Parties.

THE land settlement policy inaugurated after the disturbances of 1905, which aimed at enlarging and improving the peasants' holdings without infringing vested rights, was from the outset violently opposed by the Russian revolutionary parties. The Bolshevik and Menshevik[1] wings of the Social Democratic party opposed it as a typical example of "bourgeois evolution." Writing in 1907, Lenin, the late head of the Communist Government, expresses the Bolshevik view: "The famous agrarian legislation of Stolypin, put in force in accordance with Article 87 of the Fundamental Laws,[2] is imbued throughout with a purely bourgeois spirit."[3] The Social Democrats believed that the abolition of communal land tenure and the formation of enclosed holdings were intended to benefit only a small minority of wealthy peasants: and this party based all its political calculations on agricultural laborers and the poorest of the peasants.

Even more hostile was the attitude of the *Narodniki*, or "Populist" group of the revolutionary intelligentsia. They were keen ad-

[1] The Bolsheviks and the Mensheviks form the two wings of the Russian Social Democratic party. At the London Conference of the party in 1903 the fateful division between Bolsheviks and Mensheviks was inaugurated in consequence of disagreement concerning the problem of leadership and discipline. The Bolshevik (meaning "majority") group carried its proposal by a very narrow majority and captured the Executive Committee of the party, from which they excluded their opponents. The insignificance of the immediate cause of the split was only apparent: in truth the division arose from the fundamental opposition between the democratic orientation of Plekhanov (the "menshevik" leader) and the oligarchical spirit of Lenin. The struggle was not suggested by a deep cleavage of principle among the rank and file of the party, but by disputes among its intellectual leaders. (Editor.)

[2] That is, by Imperial Ukase without being referred to the legislative bodies, but subject to their subsequent approval.

[3] Lenin, *Agrarni Vopros* (*The Agrarian Problem*), 1907, p. 34.

vocates of the commune as a form of land tenure, which should enable Russia to effect a direct transition to socialism, without passing through an intermediate stage of capitalism; and in the agrarian legislation of 1906–1911 they beheld the doom of that valued institution. The Populists fostered the idea of a social revolution which should bring about the nationalization of land and its general distribution among the workers on a basis of absolute equality. Since, as we have seen, the land settlement policy was based on the sense of ownership, and increased the number of small owners, the bitter hostility of the Populist was only natural. The Populist theories of agrarian socialism were inherited by the Social Revolutionary party, which appeared in the first Duma under the name of the *Trudoviki* or "Labor group" and introduced an agrarian measure (the "bill of 104") advocating the nationalization of land.

The Populists were able to give practical expression to their hostility to land settlement, for they numbered many adherents amongst the zemstvo experts, village teachers, and members of co-operative organizations, and these vigorously opposed the execution of the reforms. The more impartial of these gradually changed their attitude to land settlement; but all active revolutionaries in the ranks of the Populist-Socialists continued to oppose the reforms to the utmost of their power.

But this opposition to land settlement was not confined to the Socialists. The reforms were severely criticized by the influential Constitutional Democratic party. Offended by the Government's rejection, in 1906, of its program of compulsory expropriation of private lands, the party assumed a very hostile attitude to the agrarian legislation of 1906 and the following years. The fact that the Government had to overcome the opposition of the Constitutional Democratic party, which included many eminent representatives of the intelligentsia, instead of being able to depend upon its support and helpful criticism, greatly increased the difficulty of carrying out its land policy. As time allayed the passions roused by the revolution of 1905, while land settlement, its early shortcomings rectified, began to assume the proportions of a spontaneous mass movement, the attitude of many members of the party became less hostile; but the majority maintained toward it an attitude of great reserve.

Land settlement only received whole-hearted support from the

parties to the right of the Constitutional Democrats; its strongest advocates were the "Party of the 17th of October"[4] ("*Oktyabrists*") and the Nationalists, who together formed the right center of the Duma.

It met with considerable opposition from the more conservative groups, especially in the Council of State.[5] Those who represented the landlord class felt that the Peasant Bank proceeded too rashly in the breaking up of large estates; while the Slavophiles opposed the destruction of the commune, which they regarded as Russia's safeguard against Socialism. The fact that so many parties opposed them sealed the fate of the reforms when the revolution of February–March, 1917, removed all parties to the right of the Constitutional Democrats from the political arena, for all who were in favor of land settlement lost all political influence. The Provisional Government at once declared itself in favor of the solution of the agrarian problem by means of the compulsory expropriation of private land. The increasing pressure of the Socialist parties, and particularly of the Social Revolutionaries, and the spread of agrarian disturbances in the country impelled it, however, to adopt more and more drastic measures. It was only natural, therefore, that the suspension of all land settlement work still in progress and the destruction of so much of its organization as had survived the War should be among its first undertakings.

Immediate Effects of the Revolution.

Land settlement was completely abolished. The Provisional Government decided that the Land Settlement Committee and its subordinate committees failed to meet the requirements of the situation. The whole land settlement legislation was condemned as dictated by one-sided considerations and as forcing on the peasantry a particular form of land tenure: private ownership and enclosed individual holdings. No sooner was the Government constituted than it undertook a revision of the agrarian legislation then in force. In May, 1917, A. J. Shingarev, the Minister of Agriculture and a member of the Constitutional Democratic party, passed an act abolishing the land settlement committees and suspending the

[4] October 17, 1905, is the date of the Imperial Manifesto by which a quasi-parliamentary *régime* was introduced in Russia. (Editor.)

[5] The Upper House of the Russian Parliament.

application of the Land Settlement Act. The Provisional Government, which had not had time to formulate a constructive agrarian program, issued a general declaration on the subject, suggesting a far-reaching change exceeding in scope the law of June 14, 1910, and the Land Settlement Act, but leaving the final decision to the Constituent Assembly. Fearing, however, that the sale of large estates might reduce the area available for future expropriation, all transactions involving the sale and purchase of land were prohibited. Consequently, to quote Professor Antsiferov, "all transfers of land and all agricultural credit transactions were suddenly brought to a standstill. As in the tale of the 'Sleeping Beauty,' life ceased and everything fell under the spell of a lethargic sleep."[6]

The Land Committees.

It is true that certain new organizations were formed to deal with the agrarian problem: the Central Land Committee and local land committees. They included a large number of peasant representatives, and a still larger number of revolutionary politicians. The chief object of these committees was to investigate local conditions of land tenure, to ascertain the area of land available and that needed by the peasantry. This information was to form the basis of a fresh redistribution. The appointment of Professor Posnikov, a strong opponent of the policy of 1906–1911,[7] as chairman of the Central Land Committee, made it certain how land settlement would be dealt with.

As time went on, the Social Revolutionary party, which enjoyed absolute power during the later months of the Provisional Government's existence, exercised an increasing control over the policy of the Central Land Committee, and practically dictated its program of agrarian reform. Its influence, and especially that of its more extreme members, was strongly felt, too, on the local land committees. When V. Chernov, a left Social Revolutionary, was appointed Minister of Agriculture, these bodies became in fact the tools of the Social Revolutionary party, inciting the peasants to continue the

[6] A. N. Antsiferov, *Revolutsya i Russkoe Zemledelie* (*The Revolution and Farming*), Prague, 1921, p. 12.

[7] See Posnikov, *Agrarni Vopros v Tretei Dume* (*The Agrarian Problem in the Third Duma*), in *Vestnik Evropy* (*European Messenger*), January, 1910.

seizure of private and State lands and the destruction of country houses and farms, acts of violence which had already become common, even without such encouragement.

The various forms of land settlement were replaced, during the Revolution, by the following measures.

Acquisition of Land by Peasants.

The activities of the Peasant Bank were suspended, and all transactions involving the sale and purchase of lands ceased; the land held by the Peasant Bank was requisitioned for the general land reserve. Emigration, checked by the War, was not revived in 1917. The various means by which peasants could acquire more land being thus cut off, widespread disturbances broke out in the rural districts. Encouraged by the prevailing anarchy, their passions roused by propaganda, the peasants would not wait for the Government's solution of the agrarian problem but were intent on solving it in their own interest and at once. Even the most level-headed lost all self-control; seeing the land, stock, and equipment of the large estates seized by others, their only fear was lest they might be too late to secure a share of the spoil. The same fear made soldiers desert from the front and march home in armed bands to join in the "division of land." By declaring that "private ownership of land must cease," the Provisional Government had shattered the principle of private property; while those of its members who belonged to the Social Revolutionary party openly incited the peasants to seize private estates. Having thus encouraged the masses to seize land by force, the Government found itself unable to check the rising tide of agrarian disturbance, which reached its height in September–October, 1917. This movement has not yet been sufficiently studied, but it appears that agrarian outrages (destruction of country houses and farms, murders, arson) were most frequent in the black-soil area, except in the provinces of the extreme south.[8] Their geographical distribution seems to prove that they bore no relation to the peasants' shortage of land in any given locality: the black-soil provinces on the Volga, for instance that of Saratov, with average allotments of 19.8 deciatines per peasant farm, cannot be classed among those in which the peasants were short of land.

[8] *O Zemle* (*About Land*), I, 21.

Professor Antsiferov describes these outrages in the following words:

> Large and small estates were robbed of everything; buildings were destroyed or burnt down; machinery and implements were stolen or smashed; cattle were driven off, slaughtered or wantonly destroyed; this fate was shared by libraries of rare books, by carpets, valuable pictures, musical instruments, etc. In short, it was a huge *Jacquerie*, or to refer to a Russian precedent, a new Pugachev[9] rebellion, which cost the lives of a very great number of innocent victims, including children. The future historian of Russian economics will have to investigate the difficult but interesting problem: who were the instigators of and the most active participants in this wholesale robbery, and what part was played in it by the genuine Russian peasantry? Whatever the answer to these questions, the movement caused the complete destruction of hundreds of thousands of farms.[10]

Wherever it was not checked by outside intervention, the bulk of landowners' estates had passed, *de facto*, into the hands of the peasants even before the Bolsheviks, on their advent to power, legally abolished private landownership. As early as August 19, 1917, the Soviet of Peasant Deputies issued instructions to this effect, while immediately after the Bolshevik Revolution, in the course of the night of October 26, 1917, the "decree on land" was issued, abolishing "forthwith, and without compensation, the rights of landowners over their land" (article 1). All private estates, appanages, monasteries and churches, together with the available equipment, stock, buildings, and accessories, were handed over for disposal to the respective local land committees and Soviets of Peasants Deputies (article 2). Special instructions were published, regulating the expropriation and distribution of land. These instructions, issued without the approval of the Constituent Assembly, declared that "The right of private ownership of land is abolished for ever. Land cannot be sold, bought, leased or mortgaged. All land is expropriated without compensation, becomes the

[9] Pugachev, leader of a peasants' and Cossacks' rebellion in the reign of Catherine II. He proclaimed that he was the Tsar Peter III who had escaped after the palace revolution of 1762. This rising, conspicuous for the atrocities committed on both sides, lasted for nearly two years (1773–1775). In 1775 Pugachev was betrayed by his followers and executed in Moscow. (Editor.)

[10] Antsiferov, *op. cit.*, p. 16.

property of the whole nation and is handed over for use to those actually working on it" (article 1). Minerals below the surface of the soil, forests, and waters were also nationalized, while small woods and lakes were handed over to the communes (article 2). Right to the use of land was granted to all citizens, and the employment of hired labor was prohibited. All land was merged in a single land fund, belonging to the nation as a whole, and subject to periodical redistribution on a basis of equality, according to standards of labor or consumption.

These provisions were elaborated in the Constitutional Law of the Socialization of Land, promulgated by the Bolsheviks on February 19, 1918, after they had dissolved the Constituent Assembly. The analysis of this law, and the detailed examination of the Bolsheviks' agrarian policy and of its consequences for Russia and the Russian peasantry are, however, outside the scope of the present work. Our brief reference to these subjects was intended to show what has taken the place of land settlement in Russia since the Revolution.

We have already mentioned that private landownership was abolished by decree. This abolition, however, remained on paper, as did the regulations providing for land to be handed over for disposal to Land Committees and Soviets. The expropriation and distribution of land were, in fact, effected without the Soviets' participation. The "decree on land" was interpreted by the population as merely abolishing the rights of the former landowners and sanctioning the seizures of lands already effected. Wherever the peasants came to realize that the decree also abolished their own individual or communal rights over the land in their possession, their sense of ownership was suddenly awakened. This interpretation of the decree caused peasants' risings so extensive that they ultimately compelled the Bolsheviks to abandon some of their Communist principles.

It is difficult to obtain definite figures of the increase in the area of land held by peasants, but in so far as we are able to judge from the contradictory statistics of the Soviet Government, out of a total of 22,800,000 deciatines formerly owned by "non-toilers" in thirty-six provinces of European Russia, 21,400,000 deciatines have passed into the hands of the peasants. Before the revolution the peasants owned 94,700,000 deciatines in those provinces; this transfer of 21,400,000 deciatines has therefore only increased the area

held by them by 22.5 per cent.[11] The insignificance of the area added to the holding of the average peasant farmer is acknowledged even in the Soviet publication from which these figures are quoted:

> The peasants have seized all the land and divided it on a basis of equality. The results of this partition have, however, disappointed many people; for even this huge area of land produced only a negligible increase to each holding, when divided among the millions of peasants. A special inquiry has established the fact that the increase in the average area is absolutely insignificant, working out in fractions of a deciatine per individual farmer. In the majority of provinces the addition does not exceed one-half of a deciatine; only in a few does it reach one deciatine. The greatest increase occurred, moreover, in those regions where the peasants were already well provided with land. Landless peasants, and those whose holdings were too small, gained very little by this partition. Its ill effects, on the other hand, were very marked, for the large private estates, which used to yield good crops of high value and to put on the market large supplies of produce, were now broken up and destroyed.[12]

If the agrarian problem was solved, its solution was solely due to a circumstance mentioned in the same Soviet publication: "During the War and the Revolution the peasant population not only lost the whole of its natural increase, but was actually reduced to the extent of several millions. The agrarian problem is solved, for the time being, by the enormous decrease in the peasant population."[13]

Adjustment of Land Tenure.

The peasants who seized land after the Revolution had no instructions from the Provisional Government as to the area to be allotted to each individual and the method of redistribution. These methods therefore varied widely. In some districts each peasant considered himself as the owner of everything he could lay his hands on. In others, the peasants who formerly leased portions of large estates for a period of years appropriated them; in fact, they merely ceased to pay their rents. But where the seizure of land was effected by a village as a whole, partition assumed better organized forms, and was carried out on the usual communal lines, that is,

[11] *O Zemle (About Land)*, I, 9. [12] *Ibid.*, p. 29.
[13] *Ibid.*, p. 88.

according to the number of persons in each household. This method was adopted in the redistribution decreed at the end of 1917, after the Bolshevik Revolution. The Revolution thus revived the commune, wherever land settlement had destroyed it; and the persecution began of those peasants who had seceded and consolidated their allotments against the wish of their respective communes. By the end of 1917, the communal system had been restored in almost all districts where it had been abolished under the law of June 14, 1910. Moreover, while the spontaneous seizures of land were in progress, redistribution was resumed in the great majority of communes in which it had been in abeyance for many years, and even in some villages in which allotments were held in perpetuity. The regression in this respect was very serious; the achievements of ten years of land settlement were undone, and the peasants fell once more under the yoke of the communal system, while the conditions of land tenure became even more confused than those which had prompted the reforms.

It is true that the restoration of the communal system is only temporary. Some even of its most ardent supporters comment on the increase of individualistic tendencies among the peasants. "The outbreak of communal redistributions that occurred in 1917–1918 can hardly last for any considerable length of time," writes a well-known Soviet economist.

> It was mainly due to the necessity of distributing among the separate villages and, within the villages, among the individual farms, the lands seized from private owners. . . . But the influence of the market will probably increase among the peasants in the near future, encouraging intensive farming and the disintegration of the commune.[14]

But how slow and how painful must this second attempt at emancipation from the commune prove for the Russian peasant!

The position of the numerous enclosed *khutor* and *otrub* holdings formed during the ten years of land settlement was equally unfortunate. They fell victims to the general tendency to destroy every efficiently organized private enterprise, to bring everything and everyone down to a common level and to have everything divided up. Wherever revolutionary feeling developed its full violence, holdings of these types, conspicuous for their prosperity and good manage-

[14] N. Oganovsky, in the volume *O Zemle* (*About Land*), I, 87.

ment, were completely destroyed. The history of their destruction was briefly as follows.[15]

Fate of Peasant Farms.

Even in the first few months of the Revolution the peasant movement was, in some districts, directed not only against large landowners but also against the holders of enclosed farms. The peasants claimed the land that these farmers had bought from the neighboring landowners through the Peasant Bank; and where this land had formerly been leased by the villagers, the claim was often accompanied by the ejection of the owners and the destruction of their farms. The extreme elements, who incited the peasants to these outrages, declared that they were determined to destroy "Stolypin's landlords." Many innocent owners of small farms were murdered; some had their hands cut off or were subjected to brutal tortures. This persecution caused a panic among small farmers, who appealed in vain for protection to the Provisional Government. Many surrendered their enclosed holdings and returned to the communes. The local land committees, mainly composed of Social Revolutionaries, declared all enclosed holdings merged in the land reserve for general redistribution.

The general redistribution of land decreed by the Bolsheviks after they seized power finally obliterated such enclosed holdings as had survived the first months of the Revolution. Their abolition was specifically ordered by the central and local organizations, in pursuance of the Communist agrarian policy. Not content with seizing the holdings for general redistribution, these authorities frequently ordered the owners to restore their farm houses and buildings to their former sites in the villages. This peculiar form of *in integrum restitutio* bore striking testimony to the local Communists' hatred of pre-revolutionary land settlement, and to their determination to erase all its traces, at whatever cost.

The movement for the destruction of enclosed holdings was not, however, equally violent throughout European Russia. It reached its height in the Volga region, the agricultural provinces of the

[15] Information concerning the destruction of enclosed holdings was given in a large number of reports, presented to the first and second sessions of the Central Land Committee. See P. Pershin, *Uchastkovoe Zemlepolzovanie v Rossii* (*Enclosed Holdings in Russia*), and his article in *O Zemle* (*About Land*), I, 69–78.

center and some of the southern provinces. The fact that these regions, where the communal system survived to a considerable extent and enclosed holdings were a comparative innovation, were also those in which the revolutionary movement against private landowners was most pronounced may serve to explain why peasant owners in these localities were subject to such persecution. In the north, on the other hand, where the agrarian movement had never assumed such a violent form, and in the west and northwest, where secessions from communes had frequently occurred even before the land settlement reforms, there was very little persecution of the owners of enclosed holdings. In many instances their land was specifically exempted from general redistribution. These, however, were districts in which enclosed holdings were comparatively rare; they were most common in the southeast, the south and the center, and here they were ruthlessly destroyed. The most complicated and difficult achievement of land settlement, the creation of over 1,500,000 prosperous peasant farms, was entirely swept away by the revolutionary storm; and the land that had been rendered more suitable for cultivation by consolidation was broken up once more into scattered strips.

Breakdown of the Agrarian System.

The War and the Revolution completely disorganized the agrarian system of peasant Russia. Land tenure became uncertain. Whole villages, no less than individuals, lost security of possession of definite areas of land. The boundaries of separate holdings were wiped out; redistribution broke them up again into scattered strips, owned, in some cases, by the inhabitants of a single village, in others by those of several. The disorganization caused by the Revolution was, if possible, worse than that prevailing before the land settlement reforms. That the insignificant additional area of land obtained by the peasants as a result of the agrarian revolution could not compensate them for the confusion that it caused, is proved by the decline in agricultural production and the extreme impoverishment of the peasantry. Dr. Sering, whom we have quoted above, sums up the situation in the following words: "It is not a revolution: it is a regression."[16] Russia is at last beginning to realize the sad truth of these words.

[16] Sering, *Umwälzung der Osteuropäischen Agrarverfassung*, p. 4.

CHAPTER V

CONCLUSIONS

The Land Settlement and the War.

It is impossible to estimate the extent of Russia's economic loss through the suspension of land settlement work and the destruction of its achievements. The check which the War imposed on that great economic and cultural reform was, for Russia, one of its most serious consequences. The hope of those Russians who desired twenty or twenty-five years of peace, in order that land settlement might transform the peasantry and the country's whole social organization, was frustrated by it. The War began when land settlement was in its infancy, when its influence was scarcely felt, and when it had done but little to improve the conditions of the peasantry. The fact that land settlement was incomplete affected adversely Russia's fighting power, making it impossible for her to endure the strain of prolonged war and the hardships that it entailed. The ease with which the outbreak of February–March, 1917, developed into a real social revolution involving the complete disintegration of the army and of the country's whole economic life was largely due to the fact that the peasantry formed an uncultured, disaffected human mass, easily influenced by propaganda, and ready to effect the destruction of their own country at the instigation of revolutionary leaders. Russia has paid a heavy price for her mistake in beginning land settlement too late, nearly half a century after the emancipation of her serfs. The Russian Government, occupied with other matters, had lost sight of the most essential problem confronting an agricultural country with a peasant population: the land settlement of her peasantry. It was only after the first revolutionary outbreak of 1906 that the Government realized its error and endeavored to make up for the fifty years it had lost. We are bound in fairness to admit that land settlement, once begun, was making such progress that had it not been interrupted by external events the lost time would shortly have been recovered. The War, however, occasioned the interruption and the Revolution completed its destructive work.

A New Attitude toward the Land Reform.

Although the War suspended land settlement, and the Revolution destroyed what it had already accomplished, neither was able completely to extirpate the good seed sown during the preceding decade. They were unable to eradicate the peasants' desire for separation from the commune, for the reapportionment of scattered allotments, and for the formation of self-contained enclosed holdings. As time goes on, the movement in favor of land settlement is gaining ground once more. Land settlement, so harshly criticized before the Revolution, is beginning to gain the support of the population and even of the revolutionary part of the intelligentsia, formerly unanimous in its condemnation.

One lesson, in particular, has been learned: as long as large estates existed, both the peasants and the intelligentsia regarded their partition as the only real solution of the agrarian problem, and distrusted all proposals directed to land settlement and increased production as attempts to divert their attention from this panacea. Now, as a result of the Revolution, their dream has been realized: large estates and all lands belonging to the leisure class have been divided up; there is nothing left to distribute. Yet the agricultural depression and the peasants' lot, far from improving, have become steadily worse.

The peasants have at last learned that they must look to intensive farming and better cultivation for any improvement in their conditions of life. In a Soviet publication we read: "Although, owing to the relative scarcity of unoccupied lands belonging to the leisure class, the inadequacy of holdings has not in general been made good, the struggle for land and for larger holdings is ended, and the peasants are now faced with the problem of improved cultivation."[1] Thus, once again, the question of the system of land tenure comes to the front. Now that large private estates have ceased to exist, the reform of the system has been freed from political and class suspicions. It has lost the features which gave rise to much of the former opposition, and can be weighed on its merits as a practical proposal, quite apart from political or class considerations.

Even now the Communists and many Socialists distrust the new system of land tenure, particularly the formation of enclosed hold-

[1] *O Zemle (About Land)*, I, 77.

ings, on the grounds that the latter are the outcome of individualistic tendencies among the peasants and that their practical advantages encourage these tendencies. The peasants, however, display an ever increasing desire for land settlement, particularly for the formation of holdings of the *khutor* type. In some districts this has assumed the proportions of a widespread popular movement; the Soviet publication quoted above remarks that to settle on an enclosed holding is now "the ambition of every peasant farmer."[2] This desire to revive land settlement in new conditions is now steadily increasing in spite of the hostility of the local Communist authorities, who "have almost everywhere opposed the formation of enclosed holdings, have taken strong measures to prevent it," and have even decided "to prohibit the formation of *khutors*." They conducted a campaign against apportionment of land, compelling the peasants to form collective farms, while in many districts "drastic steps are taken to counteract any tendency to form enclosed holdings." The Soviet publication is, however, compelled to admit that "these measures frequently failed to achieve the desired result,"[3] and to confess that land settlement continues spontaneously, as a purely elemental process which it is very difficult to check. In districts where the prohibition was ruthlessly enforced, the peasants disguised the forbidden apportionments under other forms, permitted and even encouraged by the authorities. For instance, they organized *artels* or collective farms, and having obtained from the commune the necessary area of land, they divided it into enclosed holdings. These sham *artels*, under cover of which the peasants tried to evade the grip of the commune, with its system of scattered holdings, were not uncommon in many provinces.

The situation thus created is very instructive. The pre-revolutionary land settlement, so strongly opposed by the parties of the Left, was swept away by the revolutionary Governments: first, by the Provisional Government and then by the Bolsheviks. The peasants not only divided up the large estates, but wiped out, at the same time, the farms created by land settlement. Now, however, in direct opposition to the collectivist agrarian policy of the Communist Government, they are struggling to return to the land settlement policy, and to those enclosed holdings, *khutor* and *otrub*,

[2] *Ibid.*, p. 72. [3] *Ibid.*, p. 75.

which, according to the revolutionary parties, were forced upon them by the Tsarist Government.

Individualistic Tendencies among the Peasants.

Besides their desire for the abolition of scattered allotments and their consolidation into single holdings, the peasants are preoccupied with another aspect of the disorganization wrought by the Revolution. Their holdings, although increased by the seizure of private lands, are subject to frequent redistribution, and their legal title to their land remains uncertain. Land has been unlawfully seized and distributed; private ownership of land, including the rights of the peasants to their allotments, has been formally abolished. No one, not even the commune, has either definite rights over certain areas, or fixed boundaries to his actual holding. This was not realized at the beginning of the Revolution, but the longer these chaotic conditions last, the stronger grows the desire of the peasants to have their title to their land legally confirmed, and a definite area assigned to each farmer.

The Russian peasant has always been an individualist, though he did not know it; and the sense of ownership, long dormant in his unconscious mind, has at last been definitely aroused. The prophecy of the Russian economist, Prof. Peter B. Struve, has been fulfilled: at the very beginning of the Revolution he wrote that the Social Revolutionaries' watchword "By striving shalt thou acquire thy right" will prove to mean "By striving shalt thou acquire the right of ownership," since the abolition of ownership is bound to strengthen the desire for it among the peasants, long blinded to its advantages by serfdom and the communistic tradition.

Professor Sering, who is carefully observing the development of the revolutionary process in Russia, describes its results in the following words:

The truth is that the Socialist revolution has ended in pure individualism. The great achievement of Bolshevik rule has been the creation of a peasant class intensely conscious of the value of private ownership of land. Both in Greater Russia and in the Ukraine, according to all available information, the peasants have become "fanatical owners" as a result of the partition of large estates and of the struggle they have had to maintain their own holdings. A *régime* in Russia under which the peasants would not independently own the land

they cultivate is now inconceivable. . . . The peasants have not, in fact, obtained much more land than would in any case have passed into their hands as a result of the transfer of landed property in progress before the Revolution. The fact that they have obtained that land free of payment does not seem to them a very important advantage. More than once they have expressed a desire to pay for it, feeling that by so doing they would secure a legal title to their holdings.[4]

The Soviet publication quoted above also speaks of "the peasants' incontestable claim, founded on economic needs, to be granted a legal title to their land."[5]

Thus, after all the disturbances of the agrarian revolution, the idea of land settlement is being revived among the peasants. Even Soviet writers now speak of it, and of separate holdings, as factors of progress. One of them frankly declares the present prohibitive policy with regard to *khutors* and *otrubs* to be absolutely inexpedient in the present state of national economic development, and is of opinion that it should be abandoned.[6] He mentions, as a matter of regret, that,

owing to the lack by the Government and the peasants of the necessary resources for carrying out a sound policy of land settlement, it is impossible to convert the majority of communes into enclosed holdings, as was done under the former scheme; we must now be content to effect a transition to allotments held in perpetuity, while the holdings will remain in scattered strips.[7]

This is a most interesting admission. The old scheme of rational land settlement was deliberately destroyed, but the need for it is so great that many persons are now anxious to revive it, although in its most inadequate and primitive forms.

This return, in the present stage of the Russian revolution, to land settlement on former lines is so instructive that we shall submit some further evidence on the subject, the more interesting that it was published in Soviet Russia. It contains a complete justification of the Tsarist land settlement policy and indicates the important part that land settlement is again beginning to play in Russia. The author says:

[4] Sering, *op. cit.*, pp. 5–6, 10.
[5] *O Zemle (About Land)*, I, 73.
[6] *Ibid.*, p. 77.
[7] *Ibid.*, p. 89.

Whatever the defects, due to contemporary political conditions, of the Russian land settlement, the appearance, among the dull homogeneous mass of the Russian peasantry of over 1,500,000 holders of enclosed farms (*khutor* and *otrub*), had a decisive effect. It meant a great step forward in Russian life, and history is bound to justify the experiment. Indeed, it has already found its historical justification. . . . In the Lake region, in the industrial center and even in some provinces of the central agricultural region, the peasants are stubbornly struggling for the resumption of consolidations. Where they have obtained more land, this fact has often increased their determination to strive after the delimitation of their holdings. And although the authorities are opposed to the formation of separate enclosed holdings, in many provinces they have been obliged to accede to the peasants' wishes in this respect. . . . Thus, the movement, initiated and fostered by the old Government, has not abated. In conclusion, we may express our firm conviction that, in the future reconstruction of Russia's national economy in general, and of her farming in particular, the holders of enclosed farms are bound to play a most important part.[8]

Since the Revolution Russia has become, even more than formerly, a peasant country. Her reconstruction depends, in the first place, on improved conditions for her peasantry, and on the development of their farming. The strength of Russia lies, as it always did, in her great wealth of land, and her weakness in her lack of adequate agrarian organization, now felt more acutely than ever. No country in the world has ever suffered from an agricultural system as unsatisfactory as that peculiar to Russia. Before the inauguration of official Communism at the end of 1917, Russia had lived, ever since the emancipation of the peasants, under "a kind of prelude to Communism," as a Russian writer describes the commune. For half a century, under the system prevailing in Greater Russia, millions of farmers had no conception of individual ownership of their land. The result was, as we have seen, that the Russian peasants, although possessed of holdings far larger than those of the majority of peasants in any country of western Europe, were yet suffering from land hunger and dreaming of a general redistribution of the lands of other owners as the only remedy. It was only after the grave warning that it received in 1905 that the Gov-

[8] B. D. Brutzkus, *Agrarni Vopros i Agrarnaya Politika* (*The Agrarian Problem and Agrarian Policy*), Petrograd, 1922, p. 201.

ernment turned its attention to land settlement, the true solution of the problem.

The War, however, arrested all progress, and the revolutionary catastrophe swept away all that had been accomplished. Those who escaped destruction in the general wreck are again grasping at land settlement, as at a life line. The Russia of the future will be once more a land of fertile fields, of fields belonging to the peasants. The Revolution effected, *de facto*, the great transfer of land, and a way must be found of recognizing this *de jure*. If we consider the enormous area of Russia and the numbers of her peasantry, and realize what disorganization and anarchy the Revolution must have left behind it, we shall be in a position to appreciate both the importance and the huge scale of the work of land settlement that will have to be undertaken in the peasant Russia of the future.[9]

[9] In the opinion of the author the determination of the Russian peasant to obtain a legally recognized right to private ownership of land, to which attention is repeatedly drawn in the preceding pages, will not be broken down by the new policy of the Soviet Government outlined in the "five year plan." This policy, which is directed against individual peasant farming, provides for the energetic support of collective farming and aims at the creation of gigantic soviet latifunda carrying on mass production and necessarily resulting in the transformation of individual farmers into a class of wage-earning proletariat. This was clearly stated in December, 1928, by Joseph M. Pavlov, representing the Amtorg Trading Corporation at the forty-first meeting of the American Economic Association in Chicago. Discussing Professor Raymond T. Bye's paper "The Central Planning and Coördination of Production," M. Pavlov made the following statement: "Agriculture is to be totally transformed. Instead of the 25,000,000 very small farms, which are characteristic of the present type of our agriculture, it is expected that large-scale farming of the type of the Campbell farm in Montana will become an important factor" (*The American Economic Review*, March, 1929, Supplement, p. 130). In accordance with the plan of the Soviet Government large-scale farms covering an area of some 5,000,000 deciatines, or about one-fourth of the total area which passed to the peasants after the Revolution, will be created in the course of the next five years. The history of the Stolypin land settlement seems to indicate that this policy has little chance of success and that sooner or later collective farms will return to private ownership.

APPENDIX I

RESULTS OF THE FORMATION OF ENCLOSED HOLDINGS OF THE KHUTOR AND OTRUB TYPES ON ALLOTMENT LANDS FOR THE DECADE 1907 TO 1916[1]

Provinces	*Total number of holdings*	*Number of holdings enclosed and consolidated*	*Percentage of enclosed holdings*	*Total area of allotment land (in deciatines)*	*Total area of enclosed holdings (in deciatines)*	*Percentage of area in enclosed holdings*
Archangel	55,100	300	0.5	334,800	1,900	0.5
Astrakhan	67,000	5,800	8.6	1,902,300	182,600	9.5
Bessarabia	284,600	23,900	8.4	1,864,000	142,000	7.6
Chernigov	367,400	14,600	3.9	2,329,200	94,100	4.0
Don Territory	130,700	13,000	9.9	577,800	120,000	20.7
Ekaterinoslav	270,800	90,500	33.0	2,531,100	825,300	32.6
Grodno	91,700	11,100	12.1	1,517,200	94,400	6.2
Kaluga	172,000	10,200	5.9	1,391,600	84,200	6.0
Kazan	374,600	20,500	5.4	3,205,400	135,400	4.2
Kharkov	364,100	87,800	24.0	2,662,100	534,300	20.0
Kherson	294,300	70,700	24.0	2,291,200	529,900	23.1
Kiev	383,500	35,400	9.2	2,106,800	163,600	7.7
Kostroma	239,800	8,400	3.5	2,136,400	76,900	3.5
Kovno	110,400	24,600	22.2	1,610,400	326,000	20.2
Kursk	335,300	28,000	8.4	2,455,400	172,100	7.0
Minsk	213,900	14,400	6.7	1,946,000	188,000	9.6
Mogilev	198,300	29,800	15.0	1,619,300	305,200	18.2
Moscow	120,600	20,000	16.5	1,584,600	126,900	8.0
Nizhni-Novgorod	264,700	20,600	7.7	1,970,200	119,500	6.0
Novgorod	214,200	20,400	9.5	2,886,900	275,600	9.0
Olonets	66,600	1,000	1.5	4,335,600	66,900	1.5
Orel	287,200	17,000	5.9	2,009,100	122,300	6.0
Penza	241,000	23,500	9.7	1,814,000	158,800	8.7
Perm	520,500	12,500	2.4	8,337,500	34,800	0.4
Petrograd	106,500	33,400	31.3	1,031,000	287,500	27.7
Podolsk	458,800	11,300	2.4	1,754,200	34,800	1.9
Poltava	446,900	50,100	11.2	2,195,500	229,700	10.4
Pskov	158,900	29,000	18.2	1,460,600	274,700	18.8
Ryazan	280,900	15,200	5.4	1,885,000	77,400	4.1
Samara	337,100	87,400	25.9	6,712,300	1,927,300	28.6
Saratov	351,100	64,900	18.4	3,349,000	739,800	22.0
Simbirsk	244,900	21,000	8.5	1,658,300	148,600	8.9
Smolensk	215,900	39,100	18.1	1,936,100	393,000	20.2
Stavropol	140,200	34,900	24.9	1,788,000	633,400	35.4
Tambov	406,000	26,900	6.6	2,848,200	178,100	6.2

[1] Figures concerning enclosed holdings are taken from the collection *O Zemle* (*About Land*), Vol. I, Moscow, 1921, appendix II; those for the total number of farms and the total area of allotment land refer to 1905.

RESULTS OF THE FORMATION OF ENCLOSED HOLDINGS OF THE KHUTOR AND OTRUB TYPES ON ALLOTMENT LANDS FOR THE DECADE 1907 TO 1916 (continued)

Provinces	*Total number of holdings*	*Number of holdings enclosed and consolidated*	*Percentage of enclosed holdings*	*Total area of allotment land (in deciatines)*	*Total area of enclosed holdings (in deciatines)*	*Percentage of area in enclosed holdings*
Taurida	132,900	42,600	32.0	1,957,500	487,500	24.9
Tula	214,100	26,300	12.2	1,350,300	136,700	10.1
Tver	302,900	26,600	8.7	2,641,600	264,600	10.0
Ufa	318,700	18,700	5.8	6,251,800	344,800	5.5
Vyatka	482,500	4,700	0.9	7,718,000	50,100	0.6
Vilna	94,400	12,600	13.3	1,278,700	120,000	9.3
Vitebsk	138,600	43,900	31.6	1,593,100	416,300	26.1
Vladimir	243,000	13,600	5.5	2,162,500	109,700	5.0
Vologda	238,000	8,400	3.5	3,699,400	104,400	2.8
Volhynia	292,400	37,400	12.7	2,298,900	272,000	11.8
Voronezh	388,600	35,000	9.0	3,746,400	246,000	6.5
Yaroslavl	198,600	14,000	7.0	1,420,600	120,000	8.4
Total	11,950,000	1,303,300	10.9	118,156,900	12,652,300	10.7

APPENDIX II

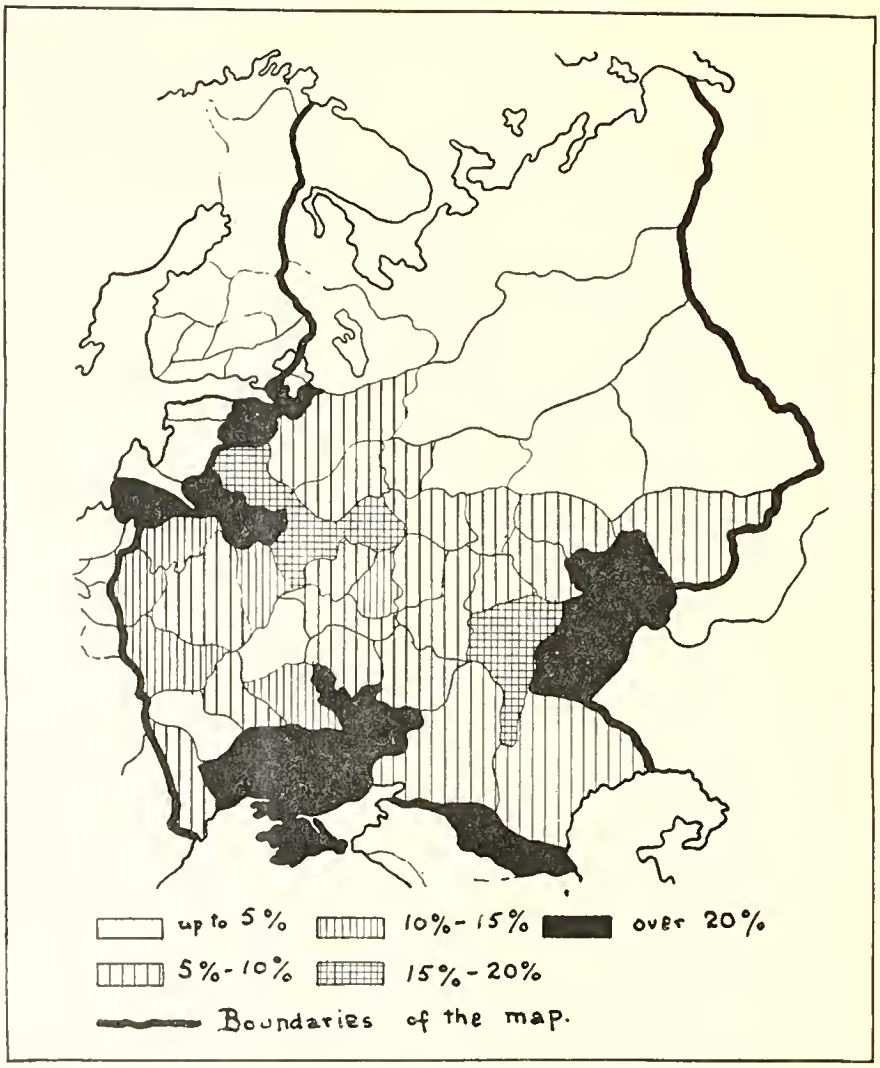


Diagram Showing the Ratio of Peasant Holdings Enclosed in 1907–1916 to the Total Number of Peasant Farms for Forty-Seven Provinces of European Russia.

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